DMDC Report No. 97-025
December 1997

Armed Forces 1996 Equal Opportunity Survey: Statistical Methodology Report

Defense Manpower Data Center
Survey & Program Evaluation Division
1600 Wilson Boulevard, Suite 400
Arlington, VA 22209-2593

DMDC Report No. 97-025
December 1997

ARMED FORCES 1996

EQUAL OPPORTUNITY SURVEY:

STATISTICAL METHODOLOGY REPORT

Sara C. Wheeless, Robert E. Mason, Jill D. Kavee,
Research Triangle Institute

and

Richard A. Riemer, Timothy W. Elig
Defense Manpower Data Center

Defense Manpower Data Center
Survey & Program Evaluation Division
1600 Wilson Boulevard, Suite 400, Arlington, VA 22209-2593

Executive Summary

This report describes the sampling design, sample selection, estimation procedures, and the missing data compensation procedures used for the *1996 Status of the Armed Forces Surveys (SAFS) Form D—Equal Opportunity*; this survey is referred to as the *1996 Equal Opportunity Survey (EOS)*. This report provides statistical background information for the datasets and reports of the survey results.

The population of inferential interest for the *EOS* consisted of the worldwide distribution of active-duty Army, Navy, Marine Corps, Air Force, and Coast Guard members (including Reservists on active duty) below the rank of admiral or general, with at least six months of active-duty service. Members of the National Guard and Reserves were in the population for the survey if they were in active-duty assignments (e.g., Active Guard and Reserve (AGR) and Navy Training and Administration of Reserve (TAR)) for at least 179 days.

The main purposes of the survey were to provide survey data on types, frequency, and effects of racial/ethnic harassment and discrimination experienced by active-duty military; context, location, and circumstances under which the experiences occur; racial climate within the larger organizational climate; characteristics of the complaint process; and effectiveness of current policies/training designed to prevent, reduce, and eliminate racial/ethnic harassment and discrimination. The questionnaire for *EOS* was developed specifically for this survey effort. Data collection for the surveys was by mail. Survey development, administration, and datasets were reported by Edwards, Elig, and Riemer (1997).

Sampling Design

The initial sample for the *EOS* consisted of a stratified random sample of 76,754 individuals, of whom 73,496 were ultimately determined to be eligible members of the target population. Stratum definitions for the survey consisted of Service (Army, Navy, Marine Corps, Air Force, Coast Guard, and AGR/TARs), location (United States versus outside the United States), paygrade group (E1 through E3, E4, E5 through E6, E7 through E9, and WO1 through O6), and race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, Native American & Alaska Native, Asian & Pacific Islander, and Other). In addition, there was an unknown stratum containing individuals for whom one or more of the stratum variable values were missing.

The total sample size and allocation for *EOS* was determined to satisfy precision constraints imposed on estimates of prevalence rates in key reporting domains. The prevalence rate can be thought of as any proportion to be estimated from a survey, such as the proportion of persons who report incidents of racial/ethnic harassment or discrimination. The sampling design considered reporting domains (subgroups for which results would have to be reported with known accuracy) defined by different combinations of Service, racial/ethnic group membership (Hispanic, non-Hispanic Black, non-Hispanic White, Asian & Pacific Islander, and Native American & Alaska Native), paygrade, location (US, Europe, Asia/Pacific Islands), and density in duty occupations of blacks, Hispanics, and total minorities.

A formal mathematical procedure was used to determine the sample size and allocation. The procedure involved developing equations to describe the variance of the sample estimates and the variable survey costs, then simultaneously solving the equations subject to the (inequality) precision requirements. The solution obtained was unique and was that allocation of the sample that jointly satisfied the precision requirements for the least cost.

The sample of individuals was selected with equal conditional probabilities given the stratum allocations. However, because the stratum allocations were not proportional to the stratum sizes, sample individuals were not selected with equal overall probabilities.

Missing Data Compensation Procedures

When the survey fielding closed in February 1997, response status was determined for 43,113 individuals, of whom 3,258 were determined to be ineligible and 39,855 were determined to be respondents who had returned usable surveys. After making adjustments for eligibility and differential sampling rates across the various subgroups, the response rate was 52.7%.

Weights were generated so that estimates from the survey would represent the population of interest. The weights reflect (a) the probability of selection for that member, (b) a nonresponse adjustment factor to minimize bias arising from differential response rates among demographic subgroups of the population, and (c) a poststratification factor for September 1996, the month the survey form was first distributed.

The procedure used to adjust for nonresponse for *EOS* was a combination of a Chi-squared Automatic Interaction Detector (CHAID) analysis to determine variables related to nonresponse, and logistic modeling of response propensity. A logistic regression model was developed where the independent variable was an indicator variable which was "1" if the sampled person was a respondent and was "0" otherwise. Dependent variables were those selected by CHAID as being related to the likelihood of response and also some additional variables important for analytic considerations. This regression model was used to obtain predicted values of the response probability with the same values of the independent variables. The inverse of this estimated response rate was used to adjust the sampling weight of the respondents. Independent variables for the model included those used to define the sampling strata (i.e., Service, component, race/ethnicity, paygrade, and location). Other variables used were education, marital status, gender, and minority density in the Service members' occupations groups. The response propensity modeling procedure is similar to the weighting class adjustment procedure that is often used to adjust sampling weights for nonresponse; however, the modeling procedure allows for the inclusion of a greater number of variables.

Table of Contents

Table of Contents (continued)

Table of Contents (continued)

THE 1996 ARMED FORCES EQUAL OPPORTUNITY SURVEY: STATISTICAL METHODOLOGY REPORT

Introduction

This report describes the statistical methodology used for sampling and weighting for the *1996 Status of the Armed Forces Surveys (SAFS) Form D—Equal Opportunity*. The survey is referred to as the *1996 Equal Opportunity Survey (EOS)*. Separate sections of the report describe the sampling design and selection, missing data compensation procedures, and survey performance rates. Appendices to this report provide supplementary tables, give detailed statistical derivations and estimation procedures, and describe the contents of the data files that document the weighting procedures and analyses. A glossary (see Appendix G) is provided to help readers understand technical terms used in this report; words and phrases in italics appear in the glossary.

Remaining portions of this introductory section provide an overview of the survey and introduce key features of the statistical methodology for the survey.

Survey Overview

Survey development and administration are described by Edwards, Elig, and Riemer (1997). The main purposes of the survey were to provide survey data on types, frequency, and effects of racial/ethnic harassment and discrimination experienced by active-duty military; context, location, and circumstances under which the experiences occur; racial climate within the larger organizational climate; characteristics of the complaint process; and effectiveness of current policies/training designed to prevent, reduce, and eliminate racial/ethnic harassment and discrimination. The questionnaire for *EOS* was developed specifically for this survey effort.

Data collection for the survey was by mail. Individuals in the sample initially received an introductory letter explaining the survey and soliciting cooperation. The letter was followed by a package containing the questionnaire and a letter requesting that the survey be completed. The package was followed by another letter thanking the individual if the questionnaire had been returned, and asking for its return if it had not been. After specified times had elapsed, a second and a third package containing the questionnaire and letters stressing the importance of the survey were mailed to nonrespondents to the previous mailings.

Summary Description of the Sampling Design

The population of inferential interest for the *EOS* consisted of the worldwide distribution of active-duty Army, Navy, Marine Corps, Air Force, and Coast Guard members (including Reservists on active duty) below the rank of admiral or general, with at least six months of active-duty service. Members of the National Guard and Reserves were in the population for the survey if they were in active-duty assignments (e.g., Active Guard and Reserve (AGR) and Navy Training and Administration of Reserve (TAR)) for at least 179 days.

The initial sample for the *EOS* consisted of a stratified random sample of 76,754 individuals, of whom 73,496 were ultimately determined to be eligible members of the target population. Source information for constructing the sampling frame was taken from the Defense Manpower Data Center's (DMDC's) April 1996 Active Duty Master File (ADMF) and the April 1996 Reserve Components Common Personnel Data System (RCCPDS). The ADMF and RCCPDS provided the information for constructing *strata* and for defining the key reporting *domains* that provided the basis for determining the sample size and allocation.

Stratum definitions for the survey consisted of:

- Service: Army, Navy, Marine Corps, Air Force, Coast Guard, and AGR/TARs.
- Location: United States (US) vs. outside the United States (Overseas). For this survey, US included all 50 States and the District of Columbia, whereas Overseas included all other countries, United States Territories, and Naval personnel aboard ships afloat in ports outside the US and afloat at sea.
- Paygrade: E1 through E3, E4, E5 through E6, E7 through E9, and WO1 through O6.
- Race/ethnicity: non-Hispanic White, non-Hispanic Black, Hispanic, Native American & Alaska Native, Asian & Pacific Islander, and Other.
- An unknown stratum: All individuals for whom one or more of the above stratum variable values were missing.

The total *sample size* and allocation for *EOS* was determined by satisfying precision constraints imposed on estimates of prevalence rates in key reporting domains. The prevalence rate can be thought of as any proportion to be estimated from a survey, such as the proportion of persons who report incidents of racial/ethnic harassment or discrimination. The sampling design considered reporting domains (subgroups for which results would have to be reported with known accuracy) defined by different combinations of Service, racial/ethnic group membership (Hispanic, non-Hispanic Black, non-Hispanic White, Asian & Pacific Islander, and Native American & Alaska Native), paygrade, location (US, Europe, Asia/Pacific Islands), and density in duty occupations of blacks, Hispanics, and total minorities. For 172 reporting domains, maximum *confidence interval half-widths* of 0.012 to 0.08 were specified for a prevalence rate of 0.5.

A formal mathematical procedure based on Karush-Kuhn-Tucker theory was used to determine the sample size and allocation. The procedure involved developing equations to describe the variance of the sample estimates and the variable survey costs, then simultaneously solving the equations subject to the (inequality) precision requirements. The obtained solution was unique and was the sample allocation that jointly satisfied the precision requirements for the least cost.

The sample of individuals was selected with equal conditional probabilities given the stratum allocations. Because the stratum allocations were not proportional to the stratum sizes, sample individuals were not selected with equal overall probabilities.

The sample frame included only those members who were on active duty in April 1996, with eligibility conditional on also being on active-duty in June and September 1996. Sampled individuals were compared against DMDC's Defense Enrollment Eligibility Reporting System (DEERS) end-of-month Extract file for June 1996 and September 1996 to obtain updated information on survey eligibility.

Summary Description of the Missing Data Compensation Procedures

When the survey fielding closed in February 1997, response status was determined for 43,113 individuals, of whom 3,258 were determined to be ineligible and 39,855 were determined to be respondents who had returned usable surveys. After making adjustments for eligibility and differential sampling rates across the various subgroups, the response rate was 52.7%.

Weights were generated so that estimates from the survey would represent the population of interest. The weights reflect (a) the probability of selection for that member, (b) a nonresponse adjustment factor to minimize bias arising from differential response rates among demographic subgroups of the population, and (c) a poststratification factor for September 1996, the month the survey form was first distributed.

The procedure used to generate the nonresponse adjustment factor was logistic modeling of unit response propensity. A logistic regression model was developed where the independent variable was an indicator variable which was one if the sampled person was a respondent and was zero otherwise. Dependent variables were related to the likelihood of response and to analytic considerations and were chosen using CHAID (Magidson, 1993). This regression model was used to obtain predicted values of the response probability with the same values of the independent variables. The inverse of this estimated response rate was used to adjust the sampling weight of the respondents. Potential independent variables for the model included those used to define the sampling strata (i.e., Service, component, race/ethnicity, paygrade, and location) and other variables, such as education, gender, marital status, and percent minority in the sampled members' occupation groups. The response propensity modeling procedure is similar to the weighting class adjustment procedure often used to adjust sampling weights for nonresponse.

Poststratification was used to force the response-adjusted weights to sum to the counts of active duty personnel as of September 1996 to create the final analysis weight.

Sampling Design

This section of the report describes:

- the inferential requirements for the survey including the inferential population definition, key reporting domains or subpopulations defined within the overall population, and the precision requirements imposed on sample estimates of parameters describing the key domains;
- the construction and stratification of the sampling frame;
- the procedure followed to determine the sample size and allocation; and
- selection of the sample.

A distinction is made between *sample size* and *number of observations*. Sample size refers to the number of persons selected into the sample. Sample sizes are determined to provide a specified number of observations given the anticipated eligibility and response rates for the survey. The sample is the group of persons to whom a questionnaire is to be administered. Number of observations, on the other hand, refers to the number of persons eligible to participate in the survey who returned a questionnaire with key items completed.

A distinction is also made between *strata* and *domains*. Stratification is a feature of the sampling design, used to control the distribution of the sample. Strata partition the inferential population in the mathematical sense. That is, each individual in the population is classified into only one stratum, and the set of all strata includes the entire population. By contrast, a single individual can simultaneously belong to one or more domains. The set of domains, as a consequence, does not partition the population and is itself arbitrary, depending largely on the interests of the investigators analyzing the data. *Key domains* are identified in advance of the survey to provide the basis for determining the sample size and allocation.

Overview of the Sampling Design

A stratified random sampling design was used for *EOS*. Source information for constructing the sampling frame and identifying key domains consisted of a computer accessible file totaling 1,573,663 records. The file contained information extracted from two DMDC person-level files: the April 1996 ADMF and the April RCCPDS.

Within each stratum, persons were sampled with equal conditional probabilities, and without replacement. Stratum level sample sizes were determined by variance constraints imposed on key parameter estimates of the proportion of persons belonging to specified domains. Paremeter estimates used were percentages who would report having experienced one or more of the behaviors defined in the survey as racial/ethnic harassment or discrimination. The total sample size for the *EOS* was 76,754.

Inferential Requirements

The inferential requirements for a survey are described in terms of

- a fully operational definition of the population of inferential interest (i.e., the target population),
- key parameters used in developing the design, and
- the precision requirements for the survey, stated in terms of the maximum values of the variances to be associated with the sample estimates of the key parameters.

The population definition identifies all individuals for whom conclusions are to be reached or about whom inferences are to be made based on the survey data. The definition generally includes a spatial and a temporal component.

Key parameters used as the basis for the design may be defined in terms of characteristics of the overall population, characteristics of subpopulations of special interest (key domains), tests of hypotheses (including standardized comparisons), and the relations that exist at population levels among specified observation variables. For this survey, the key parameters were prevalence rates, defined as the proportion of persons belonging to specified domains who would report having experienced one or more of the behaviors defined in the survey as racial/ethnic harassment or discrimination. The prevalence rates used for design purposes were chosen by the investigators based on policy and programmatic considerations and on the resources available for undertaking the surveys.

The precision requirements for the *EOS* were defined in terms of the maximum *confidence interval half-widths* to be associated with a priori estimates of the specified prevalence rates in specified key domains.

Population Definition

The population of inferential interest for the *EOS* consisted of all military personnel below flag rank in the Army, Navy, Marine Corps, Air Force, and Coast Guard, including AGR/TARs program members of the National Guard and Reserves.

The survey was worldwide in scope and included active-duty individuals below flag rank when selected into the sample: (a) who were members of a Service in the April 1996 ADMF *or* Reserve Components individuals who were members of a program (e.g., AGR/TARS) on active-duty in the April 1996 RCCPDS, and (b) who were also in active-duty status in June and September 1996. If not in active-duty in June or September 1996, sampled persons were flagged as ineligible. The eligible population was approximately limited to members with at least six months service when surveyed. After the sample was selected, eligibility of sampled members was checked by comparing to the DEERS end-of-month Extract file for June 1996 and September 1996.

Key Reporting Domains

The factors used to define the key reporting domains are listed in Table 1. An initial set of candidate domains was generated by considering various combinations of, and crosses among, the factors listed in the table. Because the domain sizes interact with the precision requirements imposed on the domain prevalence estimates to determine the overall sample size and allocation, several iterations were required to develop domain definitions consistent with the objectives of the survey and the resources available to carry out the survey.

The factors listed in Table 1 are generally self-explanatory. The Black density, Hispanic density, and minority density groupings were constructed using the distribution of Blacks, Hispanics, or minorities in occupational specialties and are described in more detail in the Missing Data Compensation section of this report and by Edwards et al. (1977). Precision constraints were not set for either these density groupings or the individual ethnic groups in the final sample allocation.

Precision Requirements

In general, precision requirements are specified as the maximum values of the sampling variances to be associated with parameters estimates for key domains. Both the values of the parameters and the values of the variances are needed to complete the specification. The sampling variances are functions of the sample size, the distribution of the sample, population variances, and design constants. Because information about the values of population variances is typically lacking in advance of the survey, a convenient way to specify the precision requirements is in terms of the sampling variances to be associated with estimates of domain proportions (i.e., estimates of the proportion of individuals belonging to specified domains who possess characteristics or attributes of particular interest). By using this convention, the (binomial) population variances are coincidentally specified with the specification of the proportions.

For this survey, the parameters used for specifying the precision requirements were the proportions of individuals who would report having experienced one or more of the behaviors defining racial/ethnic harassment or discrimination. These behaviors are defined by Questions 29, 30, and 31 on the *EOS* questionnaire.

The parameter values used for the design are the prevalences listed in Appendix B in Table B-1. As is the case with the domain sizes, the values of the prevalence rates chosen to provide the basis for the precision requirements influence the size and cost of the survey.

The maximum values of the variances to be associated with the sample estimates of the prevalence rates were, for this survey, specified in the form of confidence interval half-widths. Both the cost implications and the objectives of the survey were considered in specifying these values. On the one hand, the intervals had to be small enough to provide an informative study. On the other hand, they could not be so restrictive as to be unaffordable. Table B-1 lists the half-width intervals together with the domain definitions, domain sizes, and prevalence rates.

Table 1.
Factors Defining Key Reporting Domains

Factors	Levels
Black Density	High Density
	Low Density
Ethnic Group	Mexican
	Puerto Rican
	Cuban
	Latin American
	Other Hispanic Descent
	Aleut
	Eskimo
	North American Indian
	Chinese
	Japanese
	Korean
	Indian
	Filipino
	Vietnamese
	Other Asian Descent
	Melanesian
	Micronesian
	Polynesian
	Other Pacific Island Descent
	Other/None
	Guamanian
Gender	Male
	Female
Hispanic Density	High Density
	Low Density
Minority Density	High Density
	Low Density
Paygrade Group 1	E1 to E3
	E4
	E5 to E6
	E7 to E9
	WO1 to WO5 & O1 to O3
	O4 to O6
Paygrade Group 2	E1 to E3
	E4
	E5 to E6
	E7 to E9
	W1 to O6

Table 1. (continued)

Factors	Levels
Paygrade Group 3	E1 to E4 E5 to E9 W1 to O6
Race/Ethnicity 1	non-Hispanic White non-Hispanic Black Hispanic Asian & Pacific Islander Native American & Alaska Native Other
Race/Ethnicity 2	non-Hispanic White non-Hispanic Black Hispanic Asian & Pacific Islander Native American, Alaska Native & Other
Race/Ethnicity 3	non-Hispanic White non-Hispanic Black Hispanic Asian, Pacific Islander, Native American, Alaska Native, & Other
Region 1	US Europe Asia & Pacific Islands Other
Region 2	US Overseas
Service/Component	Army Navy Marine Corps Air Force Coast Guard AGR/TARs

Sampling Frame Construction and Stratification

A distinction is made between *dimensions of stratification* and *levels of stratification*. The dimensions are the variables used to stratify the sample/population whereas the levels are the values present within a dimension. Table 2 presents the stratification dimensions and levels.

Table 2.
Source Information Used for Stratification

Dimension of Stratification	Levels of Stratification
Service	Army
	Navy
	Marine Corps
	Air Force
	Coast Guard
Component	Active
	AGR from a Reserve component (e.g., TAR)
	AGR from a National Guard component
Location	US
	Overseas
Paygrade group	E1 to E3
	E4, E0
	E5 to E6
	E7 to E9
	Officers: WO1 to WO5, O1 to O6, W0, O0
Race/ethnicity	non-Hispanic White
	non-Hispanic Black
	Hispanic
	American Indian/Alaska Native
	Asian/Pacific Islander
	Other

Preliminary Stratification

As a starting point, paygrades were combined to form the following groups: four levels of enlisted personnel (E1 to E3, E4, E5 to E6, and E7 to E9), and an officer group consisting of all warrant officers (W01-W05) and commissioned officers (O1 to O6). Using these groupings in place of individual paygrades, a candidate set of strata was constructed by crossing all of the levels in Table 2, yielding 900 potential strata. While some combinations of Service and component do not exist, the crossing of these two dimensions resulted in a large number of strata that do not contribute to greater precision for key reporting domains. A decision was made to reduce the number of potential strata to 360 by classifying members of any Reserve or Guard component into an AGR/TAR level in a redefined Service dimension of stratification.

The next step was to consider the minimum stratum size consistent with a total sample size of 60,000. The figure of 60,000 people was the originally targeted sample size for *EOS*, although this number was later increased. If unbiased variances for linear statistics are to be a design requirement, then a minimum of two observations is needed in any stratum. However, if a stratum is too small, then insisting on at least two observations from that stratum introduces an unequal weighting effect that acts to increase variances for no reason other than the stratum is

simply too small. Even if only a few strata are too small, the cumulative unequal weighting effects can compromise any variance advantage associated with having stratified in the first place.

This consideration lead to defining "too small" in terms of a proportional allocation of the total sample. A proportional allocation of the sample cannot, by definition, introduce unequal weighting effects. Given a proportional allocation and a minimum requirement of two observations per stratum, the minimum stratum size was computed as,

$$\min\{N_h\} = \frac{2N}{n},$$

where,

N_h = the size of the h - th stratum,

N = the size of the population, and,

n = the total size of the sample.

For $N = 1{,}573{,}663$ and $n = 60{,}000$, a minimum stratum size of $\min\{N_h\} = 53$ was indicated.

Next, the proportion of the total strata defined by all possible crosses that were below the minimum size of 53 was computed for each of the initial stratification variables. The decisions about which strata to collapse were based on identifying the candidate stratification dimensions with consistent patterns of deficient strata and on a consideration of the relative importance of specific candidate stratification dimensions to the surveys. Thus, an initial decision to collapse Native Americans[1] with other races was reversed because Native Americans are an important analytic group, despite the consistent dearth of Native Americans in most of the strata defined by crossing this stratification level with levels from other stratification variables. On the other hand, the consistent pattern of too few AGR/TARS and Coast Guard personnel overseas resulted in their being collapsed. Specific levels that were collapsed were:

- US/Overseas locations were combined within the Marine Corps, within the Coast Guard, and within the AGR/TARs.
- Since the Coast Guard does not use the "Other" category when defining race/ethnicity groups, this level was excluded from the stratification for the Coast Guard.
- The enlisted categories E5 to E6 and E7 to E9 were combined for the Coast Guard, and the enlisted categories E1 to E3 and E4 were combined for the AGR/TARS.

[1] For ease of reference, particularly in tables, the group Native American & Alaska Native is some times referred to as just Native American. Even when not specified, the group "Native American" should always be assumed to include Alaska Natives.

Final Strata Definitions

The final strata definitions are listed in Appendix B, Table B-2. A total of 255 strata were constructed. The "unknown" stratum (stratum 255 in Table B-2) contains persons for whom one or more of the stratum dimensions of race/ethnicity or location was missing from the source information.

Sample Size and Allocation

After the strata were constructed, domains and their associated precision constraints were defined. Precision requirements were set for selected domains to allow in-depth analysis for the overall active-duty population and some depth of analysis for other domains. More specifically, the survey precision requirements were set for domains that would facilitate analyses for each racial/ethnic group (i.e., non-Hispanic Whites, non-Hispanic Blacks, Hispanics, Asian and Pacific Islanders, Native Americans, and Others) separately for the active strength personnel (i.e., active-duty personnel including AGR/TARs) by each level of the stratification variables (i.e., Service, location, and paygrade groups), and by selected crossings of these variables. Special attention was given to allow for Service-level analyses.

As noted earlier, the final sample size was increased from the originally targeted 60,000 in order to increase precision in specific domains, such as Europe, Asia, officers, Native Americans, and minority groups within locations.

For *EOS*, key parameters were defined as the proportions of persons (prevalence rates) belonging to specified domains who would report having experienced one or more of the behaviors defined in the survey as racial/ethnic harassment or discrimination. Prevalence rates of 0.5 were used, and the variance constraints imposed on the prevalence estimates were computed from confidence interval half-widths specified for the key domains.

Cost Model

Once the precision requirements were defined, the total sample size and its allocation to the design strata were determined such that the imposed variance constraints were satisfied for the least cost. To this end, equations were developed that describe the variable survey cost and the variances of sample estimates of the key reporting domains. The equations expressed the cost and the variances in terms of the key features of the sampling design (constants in the equations) and the stratum-level sample sizes (the unknowns in the equations). The allocation solutions were obtained by solving the equations simultaneously subject to the variance constraints. The allocation procedure was first described by Chromy (1987).

A cost model is generally developed by determining the per sampling unit cost of each of the activities to be accomplished during the survey. The list of activities, although subjective in nature, must seek to be exhaustive if the model is to describe or predict accurately the actual cost of the survey. Once the activity list is compiled, the cost of each item is partitioned into coefficients associated with the salient features of the total design, including both the sampling and the data collection designs. For example, data collection costs may be different in different

design strata. In the case of multistage and multiphase designs, the costs will depend on the stage and phase of sampling. Fixed costs (those that are not affected by changes in the number and allocation of sampling units) must be clearly separated from variable costs. Fixed costs disappear upon taking the derivatives of the cost equations and do not enter into the determination of the allocation solutions.

The set of survey activities can be categorized according to whether an activity is associated with:

- sampling frame construction and stratification,
- sample selection,
- instrument development,
- data collection,
- data editing,
- data processing, and/or
- analysis and reporting.

For one-stage stratified design surveys like that used for the 1996 *EOS*, the costs associated with sampling frame construction and stratification and the costs associated with instrument development do not depend on the sample size and allocation and are therefore fixed costs. Sample selection costs do increase as the sample size increases but only marginally (because the greater part of the sample selection cost depends on the size of the sampling frame rather than the size of the sample). For one-stage stratified design surveys where the sample is selected from computer accessible files, most of the cost is incurred in the development of software to access the files and select the sample – an activity with fixed costs. Once the software is developed, the cost differential between a small and a large sample is easily ignored unless the sample size differential is extraordinarily large. Similarly, although analysis and reporting costs depend to some degree on the sample size, the difference is easily ignored unless the analysis procedures require that excessive attention be paid to the individual sample records. Otherwise, the major component of the analysis cost derives from setting up software to do tasks such as generate tables, run regressions, and plot graphs. Thus, analysis and reporting costs are also mainly fixed costs.

For the1996 *EOS*, the expected variable survey costs depended almost entirely on the planned data collection, editing and processing activities. Additionally, per unit data collection costs would be positively related to the expected response rates in the different design strata. That is, follow-up mailings were planned for nonrespondents at specified times over the total data collection period. Data collection costs were consequently expected to be higher in those strata that would experience lower initial response rates than in those expected to have higher initial response rates. Conversely, data editing and processing costs would be higher in those strata that

experience higher rather than lower response rates because of the larger volume of material to be handled.

These considerations suggested a cost model of the following form:

$$C = \sum_h n_h \bar{C}_h$$

$$= \sum_h n_h (C_{1,h} + C_{2,h} + C_{3,h}),$$

where the subscript h denotes the design strata and,

n_h = the sample allocation made to the h-th stratum,

$C_{1,h}$ = the cost of the data collection (to an individual classified into the h-th stratum),

$C_{2,h}$ = the cost of editing a returned package,

$C_{3,h}$ = the cost of editing and processing a returned package.

The data collection cost coefficient for individuals classified into the h-th stratum is the quantity,

$$C_{1,h} = \frac{(C'_{1,h} + (1 - R_{1,h}) C'_{2,h} + (1 - R_{1,h} - R_{2,h}) C'_{3,h}}{(R_{1,h} + R_{2,h} + R_{3,h})}$$

where

$C'_{1,h}$ = the cost of an initial mailing to an individual classified in the h-th stratum,

$C'_{2,h}$ = the cost of the second mailing,

$C'_{3,h}$ = the cost of the third mailing,

$R_{1,h}$ = the expected response rate to the first mailing,

$R_{2,h}$ = the expected response rate to the second mailing,

$R_{3,h}$ = the expected response rate to the third mailing,

and the overall expected response rate within the h-th stratum is

$$\bar{R}_h = R_{1,h} + R_{2,h} + R_{3,h}.$$

The data collection, editing and processing activities were to be carried out by a contractor different from that used in designing the sample. Consequently, to preserve the confidential nature of the cost information, the dollar values for the C-coefficients were based on ranges provided by DMDC. In this respect, the absolute dollar values of the coefficients were less important for determining the sample allocation than they were for determining the operational survey costs. For the purpose of allocating the sample, relative costs sufficed and the lower endpoints of the ranges were chosen. The cost coefficients used for design purposes are:

Cost Coefficient	Costs for	*EOS*
$C'_{1,h}$	Initial mailout	\$2.35
$C'_{2,h}$	Second mailout	\$1.45
$C'_{3,h}$	Third mailout	\$1.45
$C_{2,h}$	Data editing	\$1.45
$C_{3,h}$	Data processing	\$2.27

The $C'_{1,h}$-coefficient was intended to include costs associated with:

- reproducing and mailing the notification letter,
- reproducing and mailing the first wave (letter, questionnaire, and return envelope), and
- reproducing and mailing the reminder/thank you letter.

The $C'_{2,h}$ and $C'_{3,h}$ coefficient were intended to include costs associated with reproducing and mailing the packages for follow-up waves (cover letters, questionnaires, and return envelopes). The $C_{2,h}$ coefficient included costs associated with:

- receipt control and reporting,
- scan coding the questionnaires,
- keying open ended responses, and
- transcribing comment sheets.

The $C_{3,h}$ coefficient included costs associated with

- constructing sample data files, and
- quality assurance procedures.

The expected response rates for the *EOS* were primarily based on response rates from the 1992 Active Duty Survey. The 1992 survey employed a stratified random sample of 75,345 regular active-duty members and 5,484 AGR/TAR members. Weighted population response propensities were estimated from two linear models that regressed the *EOS* stratifiers on a population weighted response flag from the 1992 Survey. The first model included five main effects (i.e., Service, location, paygrade, and race/ethnicity) and was used to estimate response propensities for AGR members. The second model combined main effects with two-way interactions and was used to estimate response propensities for the remainder of the active-duty members.

The Coast Guard was not included in the 1992 sample, and response propensities could not be estimated for them. Coast Guard response rates for the *1995 Gender Issues Form of the SAFS* showed that: (a) the Coast Guard and Air Force had similar response rates for White and Black military members, and (b) the Coast Guard and Army had similar response rates for all other races and ethnicities. Consequently the Air Force and Army response propensities were used for the corresponding Coast Guard strata.

These estimated response rates were then modified for use in the EOS because of the different nature of the two surveys. Specifically, 5% lower response rates were used for nonminorities, and 5% higher response rates were used for minorities. The distribution of expected response rates by design strata (i.e., the values $\bar{R}_h$, assumed for purposes of determining the sample allocation) is given in Appendix B, Table B-3, along with the distribution of the per unit stratum level cost coefficients, $\bar{C}_h$. The mailing level response rates for the initial mailout and the follow-up mailouts ($R_{1,h}$, $R_{2,h}$, and $R_{3,h}$ respectively) were apportioned as 60%, 30%, and 10% of the stratum-level rates, $\bar{R}_h$. That is, it was assumed that 60% of the responses in any stratum would come from the initial mailout, 30% would come from the second mailout, and 10% would come from the third mailout.

Variance Model

In this section the reporting domains are denoted using the subscript d. Define the indicator variables,

$\delta_{d,h,i} = 1$ if the i-th individual in the h-th stratum belongs to the d-th domain,
$= 0$ otherwise,
$\delta_{h,i} = 1$ if the i-th individual in the h-th stratum reports having experienced at least one of the behaviors defining racial/ethnic harassment or discrimination,
$= 0$ otherwise.

Then the total members of the domain who report having experienced at least one of the behaviors is the quantity,

$$N_d P_d = \sum_h \sum_{i=1}^{N_h} (\delta_{h,i})(\delta_{d,h,i}),$$

where $i = 1,2,\ldots,N_h$ denotes the individuals classified into the h-th stratum. At the population level, the relative number of individuals in the domain who report having experienced at least one of the behaviors is,

$$P_d = \sum_h \frac{N_h}{N_d} P_{d,h},$$

where,

$$P_{d,h} = \left(\frac{1}{N_h}\right) \sum_{i=1}^{N_h} (\delta_{h,i})(\delta_{d,h,i}).$$

Denote the sample estimate of the relative domain size by,

$$\hat{P}_d = \sum_h \frac{N_h}{N_d} \hat{P}_{d,h},$$

with variance,

$$Var\left\{\hat{P}_d\right\} = \sum_h \left(\frac{N_h}{N_d}\right)^2 Var\left\{\hat{P}_{d,h}\right\},$$

where,

$$Var\left\{\hat{P}_{d,h}\right\} = \left(\frac{N_h - n_h}{n_h N_h}\right) P_{d,h}(1 - P_{d,h}).$$

The variance constraints take the form,

$$Var\left\{\hat{P}_{d,h}\right\} \le K_d = \left[\frac{CI\left\{\hat{P}_d\right\}}{1.96}\right]^2$$

where the values K_d are chosen by the investigator. Specifically,

$$CI\left\{\hat{P}_d\right\} = 1.96\sqrt{Var\left\{\hat{P}_d\right\}}$$

are the confidence interval half-widths listed in Appendix B, Table B-1, under the column heading "Precision Constraint."

Allocation Solutions

The allocation solutions were obtained by minimizing the objective function,

$$O(n_h, \lambda_d) = C + \sum_d \lambda_d \left(Var\left\{\hat{P}_d\right\} - K_d \right).$$

The form of the objective function is design specific. For this survey (employing stratified random sampling) the objective function is given by,

$$O(n_h, \lambda_d) = \sum_h n_h \overline{C}_h + \left(\sum_d \lambda_d \sum_h \left(\frac{N_h}{N}\right)^2 \left\{\frac{N_h - n_h}{n_h N_h}\right\} P_{d,h}\left(1 - P_{d,h}\right) - K_d \right).$$

The values λ_d are generalized Lagrange multipliers, one for each of the imposed variance constraints.

Taking the derivatives $\frac{\partial(O(n_h, \lambda_d))}{\partial(n_h)}$ and equating to zero yields equations of the form,

$$\frac{\partial(C)}{\partial(n_h)} = -\sum_d \lambda_d \frac{\partial\left(Var\left\{\hat{P}_d\right\}\right)}{\partial(n_h)} \tag{1}$$

These equations are solved numerically to obtain the solutions n_h^*. At the points n_h^* there exist values of the Lagrange multipliers λ_d^* such that Equation 1 holds and additionally,

$$Var\left\{\hat{P}_d\right\}\Big|_{n_h^*} \le K_d, \tag{2}$$

$$\lambda_d^* \ge 0 \tag{3}$$

$$\lambda_d^* \left(Var\left\{\hat{P}_d\right\}\Big|_{n_h^*} - K_d \right) = 0. \tag{4}$$

Equations 1 through 4 are the Kuhn-Tucker necessary conditions.

For this survey the solution took the form,

$$n_h^* = \sqrt{\frac{\sum_d \lambda_d^* \left(\frac{N_h}{N}\right)^2 P_{d,h}\left(1 - P_{d,h}\right)}{\overline{C}_h}}$$

and was found using an iterative numerical procedure. If the initial values of the Lagrange multipliers used to start the procedure are set to

$$\sqrt{\lambda_d} = \frac{\sum_h \frac{N_h}{N}\left(\sqrt{P_{d,h}(1-P_{d,h})}\right)\left(\sqrt{C_h}\right)}{K_d},$$

then a comparison of the initial and final values of the Lagrange multipliers will identify those variance constraints that are driving the solutions and, by implication, the variable survey costs. Those constraints that are driving the costs will have final Lagrange multipliers nearly equal to these initial values, giving ratios close to one. Often a small relaxation of one or more of the identified constraints can produce impressive reductions in the cost of the survey. Constraints that are satisfied coincidentally with other constraints will have final Lagrange multipliers equal to zero.

The allocation solutions obtained are listed in Appendix B, Table B-4. The allocation solutions are expressed in terms of the number of observations needed to (jointly) satisfy the variance constraints. The sample size selected from each stratum was obtained by inflating these numbers as necessary to allow for nonresponse and other operational considerations.

Expected Performance of the Sample

The precision requirements listed in Table B-1, Appendix B, were determined over several iterations. Calculations were performed with an early version of the sample allocation program developed for DMDC by the Research Triangle Institute (Kavee & Mason, 1997). The initially specified requirements proved too restrictive to be practical. At each iteration, those variance constraints that were the major determinants of cost were identified and progressively relaxed until a set of constraints was developed that would provide both an informative and an affordable study.

Those constraints that were the major determinants of the final allocation solutions are listed in Tables B-5, Appendix B. The constraints that were the most important determinants of the allocation solutions tend to be associated with domains defined as second-order interactions (i.e., cross classifications of three domain variables, e.g., domain number 102, consisting of non-Hispanic Black E1-E4's in the Coast Guard). This result is not surprising in that these constraints were imposed on small subdivisions of the total population. By contrast most of the main effect constraints (i.e., domains defined by a single variable) have Lagrange multiplier ratios of zero, indicating that the constraints were coincidentally satisfied with the imposition of other constraints.

Because the imposed constraints are inequality constraints, the average performance of the sample tends to be better (i.e., tends to have smaller confidence interval half-widths) than is suggested by the constraints themselves. Comparison of the columns headed "Precision Constraint" in Table B-1 with the columns headed "Expected Precision" in Table B-5 shows that, except for those domains with large Lagrange multiplier ratios, the expected values of the confidence interval half-widths are less than the imposed values.

Table B-5 also shows the design effects associated with the prevalence estimates for each of the domains. The design effects listed in the tables show the relative efficiency of the design for each of the domain estimates. The design effect is computed as the sampling variance given the design (including the sample allocation) divided by the variance that would be obtained using a simple random sampling design with the same number of observations. Components of the design effect include a stratification effect, a finite population effect due to sampling without replacement, and an unequal weighting effect due to the disproportionate sample allocation. By far the most important of these component effects is the unequal weighting effect, which acts to increase the variances relative to those that would be obtained with a simple random sample of the same size.

Design effects judged to be excessively large provide some guidance for modifying either the design strata or the domain constraints or both. For example, the prevalence estimate for domain number 14, (i.e., officers), has an associated design effect greater than 4. The efficiency of the design for this main effect constraint could perhaps be improved in future surveys by removing the location strata. Alternately, or in addition, the variance constraints imposed on the officer higher-order interactions could be relaxed even further. Of course, such changes would be made only if the affected domains need not be estimated with as much precision as this design.

Revised Allocation for the Survey

The Kuhn-Tucker solution provides an optimal solution for the number of observations required to meet the precision constraints. Strata-specific response rates were then used to compute sample sizes to provide, in expectation, the numbers of observations specified by the sample allocation. The stratum-level sample sizes for the survey are listed in Table B-6, Appendix B.

In strata which were too small to support the allocation of the sample, the total number of persons in the strata was selected into the sample. To the extent that there were not large enough populations in strata to obtain the respondents required to meet the calculated precision estimates, the sample design was not effective in meeting precision constraints for domains affected by strata smaller than the calculated sample sizes. The effects of this are trivial except for a domain where across the strata tapped by the domain, the calculated sample sizes are much larger than the strata populations. For the EOS the effects were nontrivial for almost all domains defined by Native Americans & Alaska Natives where the calculated sample sizes exceeded the available population in 24 of 43 strata. This caused the sample size allocation (5562) to exceed the available population by 16% (909). Compounding the problem, lower than expected response rates further reduced the required available population in 13 of the 43 strata. This caused the allocation to exceed an additional 6.2% (346) of the required available population. The design for future surveys could be improved by modifying the software to correct for the effects of strata where the allocation is larger than the population.

Sample Selection

The sample of 76,754 military members was distributed as shown in Table B-6, Appendix B. The sample was selected with equal conditional probabilities, given the stratum, and without

replacement, from person-level records contained in the April 1996 AMDF and the April 1996 RCCPDS. A stratum-level lookup table that mapped the relevant variables in the source information records into the proper stratum was used in selecting the sample. The stratum-level sample size information was also provided in the lookup file.

The steps in the sample selection procedure were as follows:

- Each record in the source file was classified into the appropriate stratum using the lookup table.
- Seven digit random numbers were generated in the interval [0, 1] and associated with each of the records in a stratum. The use of seven digits in the random numbers allowed with a high probability that each number would be unique.
- The file was put in random order by sorting the records by their associated random numbers.
- Denote the stratum-level sample sizes in Appendix B, Table B-6 by n_h with the subscript $h = 1, 2, \ldots, 255$ denoting the strata. Because the records had been placed in random order, the first n_h records comprised the sample from the h-th stratum for the survey.
- Assign a unique number (DMDC_ID) to each record as it is selected into the sample. Because the records had been placed in random order, this case identification number used throughout the study is a random variable and not associated with any characteristic of the individual.

Missing Data Compensation

A distinction is made in this section between *sampling weights* and *analysis weights*. Sampling weights are defined as the inverses of the expected frequencies with which individuals are selected into the sample. The sampling weights are subsequently modified, primarily to compensate for the missing data patterns actually experienced. The modifications are applied to the sampling weights to produce the analysis weights, which are then used to compute the parameter estimates and their associated variance estimates.

The approach used to adjust the weights was to perform a CHAID analysis to determine variables and interactions related to the likelihood of nonresponse. The segments determined by CHAID were then used along with variables that are important analysis domains in a logistic regression model.

Performing nonresponse adjustments using logistic modeling of *unit response propensity* has become increasingly more popular because of the potential increase in bias reduction achieved with such an adjustment over the commonly used weighting class approach (e.g., see Folsom, 1991; Iannacchione, Milne, & Folsom, 1991; Rizzo, Kalton, Brick, & Petroni, 1994). The zero-one response indicator is regressed on a set of independent variables which are available for both respondents and nonrespondents. These independent variables are chosen because they are related to the likelihood of response. The predicted value obtained from the regression equation is the estimated response probability for population members with the same values of the independent variables. The inverse of this estimated probability is used to adjust the sampling weight of the respondents. This procedure is referred to as a *response propensity weight adjustment*.

As noted in Appendix E (which gives mathematical expressions for obtaining estimates of totals, means, and regression coefficients), sample estimates of domain sizes are obtained by summing the sampling weights over the sample individuals that belong to the domain. Clearly if some of the domain members fail to respond, the sum of the sampling weights over the set of respondents will underestimate the size of the domain. The logistic adjustment, similar to *weighting class adjustments*, multiply the sampling weights for respondents by an adjustment factor to produce analysis weights that, when summed over respondents, equal the sum of the sampling weights for respondents and nonrespondents. For weighting class adjustments, the adjustment factors are computed within classes constructed with the objective of placing nonrespondents in the same class with respondents thought to have substantially similar response variable values. Classes are typically constructed from demographic variables known from previous research to be associated with differences in survey response rates and with differences in responses on key items in the survey.

Subsections in this section describe construction of the adjusted weights using logistic modeling, describe the procedures to determine the variables to be included in the model, and compare and contrast the modeling procedure with the weighting class approach.

The notation used in this section builds on that used in the Sampling Design section. Given the design, the sampling weights are the quantities

$$w_{h,i} = \frac{N_h}{n_h}, \qquad i = 1, 2, \ldots, n_h \ .$$

That is, for each individual classified into the *h*-th stratum, the sampling weight is simply the total number of individuals in the stratum divided by the stratum-level sample allocation. Using this notation, an estimated total for domain *d* is written as,

$$\hat{T}_{d,y} = \sum_{h} \sum_{i=1}^{n_h} \delta_{d,h,i} \, w_{h,i} \, y_{h,i} \ .$$

The subscript, d, denotes a particular domain of interest, and,

$\delta_{d,h,i} = 1$, if the *i*-th unit in the *h*-th stratum belongs to the *d*-th domain,

$= 0$, otherwise.

The total defines some variety of parameters depending on the response variable values $y_{h,i}$ (as described with examples in Appendix E of this report).

However, because of nonresponse, observations are obtained for only $i' = 1, 2, \ldots, r_h \leq n_h$ individuals. Clearly, at least for values of $y_{h,i} = 1$, the quantity

$$^{r}\hat{T}_{d,y} = \sum_{h} \sum_{i'=1}^{r_h} \delta_{d,h,i'} \, w_{h,i'} \, y_{h,i'} \ , \qquad (5)$$

that is the sum of the sampling weights over respondents, underestimates $\hat{T}_{d,y}$ whenever $r_h < n_h$. This requires some type of adjustment.

Nonresponse is defined as occurring whenever one or both of the values $\delta_{d,h,i}$ or $y_{h,i}$ are missing or unknown such that the product $\delta_{d,h,i} \times w_{h,i} \times y_{h,i}$ cannot be formed. If, for example, the *d*-subscript identifies the domain of survey-eligible non-Hispanic Black officers, then the *i*-th sample individual is a nonrespondent if at least one of a person's eligibility status, race/ethnicity, and paygrade is indeterminate (i.e., the value of $\delta_{d,h,i}$ is unknown) or a value is not obtained for the person's response variable (i.e., the value of $y_{h,i}$ is unknown). Further note that, if the *i*-th individual is known to be ineligible, then, because $\delta_{d,h,i} = 0$, the value of the product $\delta_{d,h,i} \times w_{h,i} \times y_{h,i} = 0$ (i.e., is known), and the individual is by definition a respondent.

Response Propensity Weight Adjustments

Nonresponse adjustments may be considered in the context of multiple regression where the zero-one response indicator is regressed on a set of independent variables which are available for both respondents and nonrespondents. The predicted value obtained from the regression is the estimated response probability for population members with the same values of the independent variables. The inverse of this estimated response rate is used to adjust the sampling weight of the respondents. The *EOS* data set was an ideal situation in which to use response propensity modeling because of the large number of characteristics available for both respondents and nonrespondents from the military personnel files.

When the predicted response probabilities are used for nonresponse adjustment, logistic regression models are preferred to linear regression models. With the logistic model, the predicted probabilities will necessarily range between zero and one.

There are numerous advantages to using this modeling approach for calculating weight adjustments including:

- The basic idea of this modeling approach is to extend the group-level adjustment of the weighting class approach to person-level adjustments derived from the model's predicted response propensities.

- These models preserve totals of main effect explanatory variables without necessarily preserving the multi-way cross-classification total of main effects. The multi-way cross classification totals that are controlled depends on which interaction terms are included in the model. In contrast to the simple weighting class adjustment procedure, the advantage to this approach is that a larger number of main effect variables can be used in the adjustment procedure.

- Similar to other model-based analyses, this modeling approach allows one to use a large number of potentially significant variables including continuous variables, it allows one to include complex interactions, and it allows one to formally test the ability of the adjustment variables to explain response propensity variation.

Let $\delta_{r,h,i} = 1$ if sampled individual i responds, and 0 otherwise. Also, let $X_{h,i}$ be a vector of characteristics for the i-th individual, $X_{h,i} = \left[1, X_{h,i,1}, X_{h,i,2}, \ldots, X_{h,i,m}\right]$. Assume that the following model holds for the probability that sample member i responds:

$$\Pr[\delta_{h,r,i} = 1 | X_{h,i}, \beta] = \left(1 + e^{-X_{h,i}\beta}\right)^{-1} = \gamma_{h,i}$$

where β is a vector of logistic regression coefficients, $\beta = [\beta_0 \quad \beta_1 \quad \ldots \quad \beta_m]'$. The logistic regression coefficients are estimated by iteratively solving the system of estimation equations[2]

$$\sum_h \sum_i w_{h,i} / \hat{\gamma}_{h,i} \delta_{h,r,i} = \sum_h \sum_i w_{h,i} X_{h,i}' = {}^w T_0 \tag{6}$$

where $w_{h,i}$ is the sample weight for sample member i and $\hat{\lambda}_{h,i}$ is the predicted probability of response for the ith individual. ${}^w T_0$ denotes $\sum_h \sum_i w_{h,i} X_{h,i}'$ and is a column vector of weighted totals. Let $\hat{\lambda}_{h,i} = 1 / \hat{\gamma}_{h,i}$.

The response probability adjusted weight is computed by dividing the unadjusted weight by the estimated probability of response. That is,

$${}^r w_{h,i} = w_{h,i} \delta_{r,h,i} / \hat{\gamma}_{h,i} = w_{h,i} \delta_{r,h,i} \hat{\lambda}_{h,i}. \tag{7}$$

Note that the adjusted weight of sample members who do not respond is zero.

For any zero-one predictor $X_{h,i,k}$ the estimation equations require that

$$\sum_h \sum_i {}^r w_{h,i} X_{h,i,k} = \sum_h \sum_i w_{h,i} X_{h,i,k} = {}^w T_0.$$

Because the first element of $X_{h,i}$ is uniformly 1, the constraint equations force the adjusted weight sums for responding sample members to equal the corresponding unadjusted weight sums across all sample members. In addition, the equality of weight sums holds for any sample subset identified by a zero-one indicator in $X_{h,i,k}$, and the unadjusted and adjusted weighted total and mean for any continuous $X_{h,i,k}$ will be equal.

Choice of Variables

The variables considered for inclusion in the logistic model included those variables used to define the strata for the survey (Service, component, race/ethnicity, location, and paygrade). The strata-defining variables were a logical choice since the strata were originally constructed from variables thought to be related to survey response propensity and/or important differences in the subject matter. Other characteristics (education level and marital status) identified by Rizzo and Nixon (1996) in a 1992 DoD Survey of Reservists were considered. Gender, deployment status, Hispanic occupation density, Black occupation density, and minority occupation density were included because of their potential analytic use. Finally, finer divisions of some of the

[2] The solution equations for the weight adjustment algorithm differ from the standard design-weighted logistic regression in that the adjusted weights $w_{h,i} / \hat{\gamma}_{h,i}$ are substituted for the weights in the iterations in the equations.

variables used to define strata, such as individual levels of paygrade and more detailed location were considered. A summary of the variables considered is:

- Service (Army, Navy, Marine Corps, Air Force, Coast Guard)
- Component (Regular active duty, Reservist, National Guard)
- Race/ethnicity (White non-Hispanic, Black non-Hispanic, Hispanic, Native American & Alaska Native, Asian & Pacific Islander, Other)
- Region of the US and world (Northeast, North Central, South, West, Europe, Asia or Pacific Islands, Other)
- Marital status (Single or unknown, Married)
- Gender (Male or unknown, Female)
- Deployment status (Deployed, Not deployed)
- Paygrade (individual levels E1 - O6, and unknown)
- Minority occupation density (Low, High; for enlisted low was 8.1% - 33.2% and high was 33.5% - 53.0%, for officers low was 0.0% - 14.8% and high was 15.0% - 34.7%)[3]
- Black occupation density (Low, High; for enlisted low was 2.4% - 22.3% and high was 22.8% - 38.1%, for officers low was 0.0% - 8.4% and high was 8.4% - 21.0%)
- Hispanic occupation density (Low, High; for enlisted low was 8.1% - 33.2% and high was 6.5% - 8.5%, for officers low was 0.0% - 14.8% and high was 15.0% - 34.7%)

An initial assessment of whether a variable might be useful was based on looking at response rates in different levels of the variables, both overall and within levels of Service, race/ethnicity, and paygrade groups. Candidate variables needed to have differing response rates in the different levels. This examination indicated that marital status and education level would possibly be important predictors. Most of the other variables also showed differences in response rates at some Service, race, or paygrade group. This analysis indicated that interactions might be present. It also indicated little symmetry across the Services and race/ethnicity groups. For example, the minority density variables showed differences in response rates for some race groups but not others, and gender appeared to be a potential predictor for some Services but not others. The analysis also showed that total and respondent sample sizes were too small in some Service by race groups for all variables to be useful. For example, deployment status was useful for the

[3] Occupation density refers to the proportion of members within a particular occupation that belong to a racial or ethnic group. Gaps in the ranges occur because distributions were not continuous.

Navy but not the Coast Guard because few if any Coast Guard personnel are deployed, and gender was useful for the Army but not the Marine Corps.

The next step was to perform a CHAID analysis on the potential predictor variables to determine interactions to be included in the model. A CHAID analysis divides the data into segments which differ with respect to the response indicator. That is, the data set is progressively split into categories that are as different as possible. The segmentation process divides the sample into groups based on categories of the most significant predictor of response. It then splits each of these groups into smaller subgroups based on other predictor variables. It also merges categories of a variable that were found to be insignificant. This merging and splitting process continues until no more statistically significant predictors are found or until some other specified stopping rule is met. A rule used for the *EOS* survey was that sample sizes in each of the final segments needed to be at least 100.

CHAID analyses were performed separately for each Service. CHAID was instructed to consider r ıce/ethnicity as the predictor at the first step. Groupings of paygrade were the variables generally found by CHAID to be most predictive. (An earlier CHAID run which did not specify that race/ethnicity be considered first identified paygrade groupings followed by race/ethnic groupings to be the most predictive.) An exception was that level of education was the most important predictor for Hispanics in the Air Force.

CHAID identified 182 subgroups of the population. A small amount of additional subdividing was manually performed on some of the segments to prevent levels of stratification from being split and combined in ways that would further increase the variability in the adjusted weights. For example, CHAID combined the West region of the US with the Overseas region, and this segment was manually split into two, one for the West and the other for Overseas. Similarly, CHAID sometimes combined paygrades E8 and E9 with the officers and in this case the segment was split into two. When this splitting resulted in small sample sizes, the small segment was combined with another segment in the same sampling strata. As a result of this process the sample was divided into 212 disjoint segments determined by CHAID to have differing response rates.

These segments were coded as 0 or 1 indicator variables and were used along with the race/ethnic group by paygrade and the race/ethnic group by location (US and Overseas) interactions as independent variables in a response propensity model. These interaction terms were included even when CHAID did not identify them as important since they define important analysis domains. Including these terms in the models insured that the response-adjusted weights would sum to the original sample weights within levels of race by paygrade and race by location. The CHAID segments could have been used as weighting classes (as was used by Rizzo & Nixon, 1996), but had this been done, response-adjusted weights would have summed to the original sample weights only for those domains defined by the weighting class segments. Separate models were run for each of the Services (Army, Navy, Marine Corps, Air Force, Coast Guard, and AGR/TARS). Tables B-7 to B-12 give the indicator variables included in the final models for each of the Services; these tables also give the weighted response rate for the subgroup defined by each indicator variable. The modeling procedure was used to adjust the weights of respondents for all but the unknown stratum; a single ratio adjustment was used there.

The response probability adjusted weights were examined for excessive variation. This was done by looking at the distribution of the adjustment factors, and calculating the *unequal weighting effects* for both the unadjusted and adjusted weights.[4] Table 3 presents the unequal weighting effects and the minimum and maximum adjustment factors for the response-adjusted weights, overall and by Service. The unequal weighting effect is also presented for the original sampling weight (for respondents). The largest adjustment factor was 5.96; the large adjustment factors were for the E1-E3s, where response rates were in the 25 to 35% range.

Table 3.
Summary of Unequal Weighting Effects and Adjustment Factors for the Sampling Weights, Response-adjusted Weights, and Poststratified Weights

	Total Sample	Army	Navy	Marine Corps	Air Force	Coast Guard	AGR/ TARs
Original Sample Weights							
Unequal Weighting Effect	3.31	3.17	3.27	2.46	2.95	2.92	2.39
Response-adjusted Weights							
Unequal Weighting Effect	3.51	3.52	3.47	2.71	3.06	2.64	2.49
Minimum Adjustment Factor	1.04	1.06	1.11	1.18	1.04	1.25	1.08
Maximum Adjustment Factor	5.92	5.86	5.92	4.03	2.47	3.01	3.29
Poststratification Adjusted Weights							
Unequal Weighting Effect	3.47	3.50	3.44	2.69	3.05	2.63	2.48
Minimum Adjustment Factor	0.97	0.98	0.97	1.01	0.99	0.98	1.00
Maximum Adjustment Factor	1.05	1.03	1.04	1.05	1.05	1.01	1.05

For variance estimation, original sampling strata with fewer than 25 respondents were collapsed. Table B-13 presents the variance estimation strata, number of respondents, and response rates. Service, race/ethnicity and officer/enlisted distinctions were preserved in constructing the combinations. For the AGR/TARs, persons in the other race group were combined with Asian/Pacific Islanders.

Comparison with the Weighting Class Adjustment Procedure

This section describes similarities and differences in the weighting class and response propensity modeling adjustment procedures. Like response propensity adjustments, weighting class adjustments multiply the sampling weights for respondents by an adjustment factor to produce analysis weights that, when summed over respondents, equal the sum of the sampling weights for respondents and nonrespondents. The weighting class adjustment factors are computed within classes constructed with the objective of placing nonrespondents in the same class with respondents thought to have substantially similar response variable values. Classes are

[4] The unequal weighting effect is sometimes referred to in the literature as $1 + CV^2$, where CV is the *coefficient of variation* of the weights. The unequal weighting effect is a component of the survey design effect.

typically constructed from demographic variables known from previous research to be associated with differences in survey response rates and with differences in responses on key items in the survey. Similar considerations are used to determine the variables to be included in the model for response propensity. The segments identified by CHAID could be used as weighting classes since they subdivide the population into classes.

The goal with both procedures is for the adjustment to reduce the bias in estimates of the domain parameters and to adjust the estimated size of the domain. Since more variables can be included in the model than can be used as classes, the adjusted weights derived from the modeling procedure have the potential for greater reduction in the nonresponse bias.

Notationally, the weighting class adjustment is the sum of the weights over all of the sample individuals in a class divided by the sum of the weights over the respondents in the same class. That is, denoting a class using the subscript, c, the adjustment for the i-th respondent in the h-th stratum is

$$a_{c,h,i} = \frac{\sum_{h}\sum_{i=1}^{n_h} \delta_{c,h,i}\, w_{h,i}}{\sum_{h}\sum_{i=1}^{n_h} \delta_{c,h,i}\, \delta_{r,h,i}\, w_{h,i}}, \qquad (8)$$

where,

$\delta_{c,h,i} = 1$, if the i-th individual in the h-th stratum is classified into the c-th weighting class,

$= 0$, otherwise,

$\delta_{r,h,i} = 1$, if the i-th individual in the h-th stratum is a respondent,

$= 0$, otherwise.

If, for example, classes were defined by race (say non-Hispanic White versus other), then a race/ethnicity-specific adjustment factor would be computed by separately summing the sampling weights for all of the non-Hispanic Whites and all of the others in the sample and dividing each sum by the corresponding sum of the sampling weights for respondents.

Then the adjusted analysis weights,

$$^{r}w_{c,h,i} = a_{c,h,i}\, w_{h,i}\, \delta_{c,h,i}\, \delta_{c,h,i}, \qquad (9)$$

computed by multiplying the sampling weights by the appropriate adjustment, are used in place of the sampling weights in the estimation procedures described in the Appendix E of this report. The adjustment factor $a_{c,h,i}$ plays a role comparable to $\lambda_{h,i}$ from Equation 6. A difference is that

weighting class adjustments are applied to all individuals in a class, but response propensity weight adjustments are applied to individual sample members.

Weighting classes partition the sample in the sense that all individuals are accounted for in the set of classes, and an individual belongs to only one class. For example, if classes are formed by race and Service, then it is necessary to use the full cross of race and Service as classes. This is not the case with response propensity modeling, where the variables could be entered as main effects only. For the *EOS* weights, the CHAID segments could have been used for weighting classes, but the model allowed additional terms (race by paygrade and race by region) to be included as well.

The unequal weighting effect using the CHAID and response propensity modeling procedure would be expected to be larger than when a weighting class adjustment, using the strata as classes, was used. This is because the segments created by CHAID split the sampling strata. As a comparison, weight adjustment factors were calculated for *EOS* using a weighting class adjustment with classes defined by the variance estimation strata in Table B-17. The unequal weighting effects, had this adjustment been made, are given in Table 4. The unequal weighting effects are slightly larger using the CHAID/modeling approach compared to the weighting class adjusted weights (3.51 versus 3.43), and the range of the adjustment factors is greater. This table also presents correlations between the two sets of weights and adjustment factors. Correlations between the weights are high (0.98 or higher), and relatively high for the adjustment factors (0.85 or higher).

This analysis shows that the nonresponse adjustments from the two procedures are similar. This is likely because the important determinants of nonresponse (Service, paygrade, and race) are used in both, and because the weight sums are being adjusted to totals by race and paygrade, and race and region. The CHAID/modeling approach leads to slightly higher variances, but the hope is that the bias will be reduced in the estimates due to the additional variables used for adjustments and that this will result in a smaller *mean square error*.

Table 4.
Unequal Weighting Effects and Adjustment Factors, Using a Weighting Class Adjustment for Nonresponse, with Classes Formed by Sampling Strata

	Total Sample	Army	Navy	Marine Corps	Air Force	Coast Guard	AGR/ TARs
Unequal Weighting Effect	3.43	3.40	3.37	2.71	3.03	2.64	2.44
Minimum Adjustment Factor	1.18	1.26	1.18	1.30	1.18	1.25	1.18
Maximum Adjustment Factor	4.05	3.59	4.05	4.03	2.28	3.01	2.94
Correlations Between:							
Weighting Class Weight and Response Propensity Adjusted Weight	0.983	0.978	0.979	0.999	0.992	0.999	0.985
Weighting Class Adjustment Factor and Response Propensity Adjustment Factor	0.935	0.898	0.918	0.987	0.853	0.988	0.869

Poststratification Adjustments

The final step in producing the analysis weights involved a post-stratification step to force selected sample estimates to equal known population totals. Notationally, the known population totals are denoted by the vector quantity

$$T_0 = \left[T_{1,0} \quad T_{2,0} \quad \cdots \quad T_{p,o} \quad \cdots \quad T_{P,0} \right].$$

The population counts used correspond to the source information used to construct the sampling frame, but updated to the time of data collection. Counts used for *EOS* poststratification are the Service/component-specific counts of persons in each of the race/ethnic groups (non-Hispanic Black, non-Hispanic White, Hispanic, Native American & Alaska Native, Asian & Pacific Islander, and Other) as of the end of September 1996, and are given in Table 5.

Poststratification adjustment factors taking the form

$$b_{p,h,i} = \frac{T_{p,0}}{\sum {}^{r}w_{h,i}\,\delta_{p,h,i}} \tag{10}$$

where $\delta_{p,h,i} = 1$, if the i-th individual in the h-th stratum is classified into the p-th cell,

$= 0$, otherwise,

were computed and applied multiplicatively to the response-adjusted weights ${}^{r}w_{h,i}$ given in Equation 7. That is, the adjustment factor for respondents in the p-th class was the ratio of the known total in the class to the response-adjusted weights in the class. The poststratification adjustment factors were all close to 1, indicating that there had been little change in the size of the population between the time of sample selection and the beginning of data collection. Table 3 presents the minimum and maximum poststratification adjustment factors and unequal weighting effect for the final set of weights.

As mentioned above, the poststratification adjustment factors multiply the response-adjusted weights from Equation 7, ${}^{r}w_{h,i}$, making the final analysis weights

$${}^{f}w_{p,h,i} = {}^{r}w_{h,i}\, b_{p,h,i}\, \delta_{p,h,i}.$$

The estimation procedures described in Appendix E apply, using the final weight ${}^{f}w_{p,h,i}$ and summing over respondents.

Table 5.
Poststratified Totals - Counts as of September 1996

	Race/Ethnicity						
Service	**White Non Hispanic**	**Black Non Hispanic**	**Hispanic**	**Native American**	**Asian/Pacific Islander**	**Other**	**Total**
Army	297,358	130,392	27,918	3,077	11,365	15,413	485,523
Navy	284,187	70,924	30,735	2,536	21,803	1,461	411,646
Marine Corps	122,783	27,431	18,008	1,499	3,245	1,911	174,877
Air Force	297,806	56,964	15,272	2,042	8,031	4,607	384,722
Coast Guard	28,353	2,275	2,011	781	768	0	34,188
AGR/TARS	49,756	8,377	3,443	535	1,368	435	63,914
Total	1,080,243	295,363	97,3887	10,470	46,580	23,827	1,554,870

Performance Rates

It is important to examine the performance rates for surveys to judge the success of the survey effort and to plan for future survey efforts. In this section, response rates are provided for comparison of the performance of this survey effort with other survey efforts and to provide information for planning future surveys.

A number of different types of survey performance rates can be computed, with the difference in many of the rates being in how survey ineligibles are treated. The Council of American Survey Research Organizations (CASRO, 1982) noted that varying operational definitions of response rates can lead to difficulties in interpreting the results of a survey. To address this problem, CASRO formed a task force to recommend guidelines for standardizing the operational definitions of response rates. Beginning in 1995, DMDC standardized its methods for calculating response rates, using procedures closely patterned after those advocated by CASRO. More specifically, the new DMDC procedures closely follow CASRO's Sample Type II design. The CASRO approach corrects for ineligibility in both the numerator and denominator of the rate, and is referred to in this report as the *eligibility adjusted response rate*. Another type of response rate, which has uses because of its analogy to nonresponse weight adjustments and nonresponse analysis, treats known ineligibles as respondents in the numerator of the rate; this calculation is referred to as the *response rate* in this report. Estimates of both rates for EOS are given in this section.

The last portion of this chapter analyzes the demographic characteristics of respondents and nonrespondents.

Eligibility Adjusted Response Rate (CASRO)

The value given for the response rates in most of the *EOS* reports is the eligibility adjusted response rates as recommended by CASRO. These rates were corrected for ineligibility in the numerator and the denominator as recommended by CASRO, although the allocation of undetermined eligibility cases was made differently from that recommended by CASRO. CASRO recommends that nonrespondents for whom eligibility has not been determined be distributed to eligibility/ineligibility status using the eligibility rate among those for which a determination could be made. In the *EOS* an assumption has been made that all master file ineligibles were identified and therefore are excluded from the ineligibility rate used to estimate unidentified ineligibles.

The CASRO approach was used to classify nonlocatable sample members. That is, the 1,094 nonlocated sample members were classified as eligible or ineligible based on the proportion of self-report ineligibles found among located sample members. Among the located, responding sample members, 0.458% were self-reported as ineligible, and this percentage of the 1,094 nonlocated members were also assumed to be ineligible. CASRO's approach was also used to classify sample members who did not return a survey. That is, 32,241 sample members who did not return a survey were classified as eligible or ineligible based on the proportion of self-report ineligibles found among responding sample members. Consequently, 0.458% of the 32,241 with no survey return were assumed to be ineligible.

The overall weighted eligibility adjusted response rate (using sampling weights to compute ineligibility rates and overall rates) was 52.7%. The unweighted rate was 54.3%.

Response Rate

The sample allocation for this survey was determined in part by response rate information from previous DMDC surveys, specifically in the cost model, and in determining the sample sizes needed to provide the allocated number of observations in each of the design strata. For these purposes information was required on the response rate distribution in relation to the stratification variables. To be most useful in this context, the response rates used should be estimates of the corresponding population parameters, complete with associated variance estimates, as opposed to unweighted tabulations. That is, the response rates take the form of the estimated number of respondents in the population divided by the estimated size of the population. The procedures for obtaining the ratio and its standard error that are described in Appendix E apply, using the person-level variables defined by the products $\delta_{r,h,i} \times \delta_{d,h,i} \times y_{h,i}$. Note that, because the values of the response indicator variables $\delta_{r,h,i}$ are known for every individual in the sample, missing data problems do not arise when estimating response rates. By implication, the sampling weights rather than the analysis weights are used in the calculations. By definition, a nonrespondent is counted whenever one or both of the values $\delta_{d,h,i}$ or $y_{h,i}$ is missing or unknown. In summary, the *response rate* as used in this report was computed as

$$\text{response rate} = \frac{\text{eligible respondents + known ineligibles}}{\text{total sample}}.$$

This rate is easily computed and the definition is useful for nonresponse analysis. However, for surveys with a large number of known ineligible sample members, the rate computed using this definition may appear to overstate the success of the survey.

Estimated response rates and associated 95% confidence intervals for the *EOS* survey are provided in Appendix B, Table B-14. Unit-level rates are shown in the table for the variables used in defining the design strata. The estimated overall response rate was 55.0% with 95% confidence interval (54.4, 55.6). This definition and computation of the response rate is consistent with that used for the sample allocation for *EOS*, and for the nonresponse weight adjustments.

Comparison of Respondents and Nonrespondents

The objective in this section is to examine variables used in the CHAID analysis and weighting for significant associations with the experienced response rates. CHAID identified many interactions, but this section only looks at main effects to obtain a crude understanding of variables likely to affect response. This analysis does not replace or contradict the CHAID analysis since interactions can be present in the data, but main effects would not appear to be significant. Analyses are presented separately for each of the Services.

Tables B-15 to B-21 give the response rates for the entire sample and also separately by Service for each of the variables considered for the nonresponse weight adjustment. This was one of the analyses initially examined to determine variables that might be useful for nonresponse adjustments. These tables also present the weighted distributions of respondents, nonrespondents, and the total military population. Statistical tests of significance were performed to determine if there were differences in the response rates among different subgroups, and if there were differences in the distributions respondents and nonrespondents. Most of the variables showed significant differences at the 5% level; this is not uncommon with large surveys (Rizzo et al. 1994). The distributions in these tables indicate that compared to nonrespondents, respondents are more likely to be White rather than Black, in higher paygrades, are generally more likely to be married than single, are more likely to be not deployed than deployed, and have a higher level of education.

Response rates are related to the distributions, with rates increasing as paygrade or education level increased. Whites and some non-Black minorities had higher response rates than Blacks, married persons had higher rates than single persons, and persons not deployed had higher rates than those who were deployed. Among the regions of the US persons in the South generally had the lowest response rates (the South also contains the largest percentage of the military; 46.4% overall, from Table B-15). For the AGR/TARS, members of the National Guard responded at a higher rate than did members of the Reserves. Differences between rates for persons stationed in the US versus Overseas were small (although statistically significant). Results for the occupation density variables are inconsistent across the Services.

This univariate analysis indicates those subgroups of the population whose estimates have the potential to be most affected by nonresponse bias. Although this univariate analysis gives differences in response rates, it may be that differences in some variables can be explained by other factors. For example, married persons responded at higher rates than nonmarried persons, but married persons are also likely to be older than unmarried persons and in higher paygrades. Consequently, difference in rates between levels of marital status could be explained by differences in the paygrades.

The next step in the analysis was to run linear regression models, where the dependent variable was coded as 1 if the sampled persons was a respondent and 0 otherwise, and dependent variables were the variables presented in Tables B-15 to B-21. Linear regression was used instead of logistic regression since these analyses were exploratory . The results should not differ greatly from what logistic regression would show since the observed response rates were in the 20% to 80% range. Separate models were fitted for each Service. For race/ethnicity, White non-Hispanics were coded as the reference level since they are the largest group. The levels of paygrade used in the models were those used to define the sampling strata, with officers coded as the reference level. The South was the reference level for the region variable since persons stationed in that region are the largest group. Persons with less than a high school education and high school graduates were combined since there are so few persons with less than a high school education in the sample.

A model containing all the variables was run for each of the Services. The least significant variable was dropped from the model, and then the model was rerun. This process was continued

until only those variables significant at the 5% level were left in the model. The expanded region of the US or world variable was used first in the models, and if it was nonsignificant, it was replaced with the two-level US versus Overseas variable. The minority density variables were not included in the models because they form linear combinations with the paygrade variable; these variables would be better examined in models run separately for enlisted and officers.

Table 6 gives the variables found to be significant in the final models. Race/ethnicity, paygrade group, and level of education significant predictors for all of the Services. Black non-Hispanics were significantly less likely than White non-Hispanics to respond, in all the Services. Compared to White non-Hispanics these groups were less likely to respond: Asian/Pacific Islanders in the Army, Navy, Air Force, and AGR/TARs, Hispanics in the Marine Corps, and Native Americans in the Air Force. Enlisted paygrade groups were generally less likely to respond than officers, although the highest enlisted category (E7 to E9s) occasionally had rates similar to the officers. As was observed in the univariate analysis, persons with high school education or less or some college were significantly less likely to respond than persons with some college or more than college.

Other variables found to be significant predictors of nonresponse were marital status, gender, and location, although not all were significant at the 5% level for all Services. Unmarried persons in the Coast Guard were significantly less likely than married persons to respond, even after adjusting for other covariates. Males in the Navy and Air Force were significantly less likely to respond than females. Location and region showed significant differences at the 5% level only for the Navy and the AGR/TARs. Both variables were used in models for the Navy, where US based persons were less likely to respond than those overseas after adjusting for other variables, and persons in Europe and Asia or the Pacific Islands were more likely to respond than persons in the Southern US. For the AGR/TARS, persons in the North Central US and the West US were more likely to respond than persons in the South.

Table 6.
Significant Predictors of Response and p-values in Main Effect Models

Predictor Variable	Army	Navy	Marine Corps	Air Force	Coast Guard	AGR/ TARs
Race/Ethnicity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paygrade group	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Marital status	ns	ns	ns	ns	0.0024	ns
Gender	ns	0.0311	ns	0.0009	ns	ns
Education	0.0000	0.0363	0.0140	0.0011	0.0141	0.0084
Deployment status	ns	ns	ns	ns	ns	ns
Location (U.S/Overseas)	ns	0.0008	ns	ns	-	ns
Region of the US/World	ns	0.0038	ns	ns	ns	0.0000
Component	-	-	-	-	-	ns

ns=not statistically significant at the 5% level in the final model.
- = not included in model.

Data Files

Two SAS files were created to document sampling and weighting for the *1996 Equal Opportunity Survey.* These files were used by DMDC in preparation of the *EOS*:

- Public Use File, and
- Confidential DMDC File.

The file prepared by RTI for the preparation of the Public Use File contains 43,113 records. Two types of respondent records are included on this file: data collected from ineligible study subjects (ineligibles), and data collected from eligible study subjects (eligibles). Both the eligibles and ineligibles are counted as respondents since the eligibility status for the study is determined. The file prepared by RTI for the preparation of the Confidential DMDC File contains the 43,113 records prepared for the Public Use File plus 33,641 records from the study nonrespondents for a total of 76,754 records. Appendix F describes the variables contained on these files and gives SAS code used to create the variables.

References

Chromy, J. R. (1987). Design optimization with multiple objectives. In *Proceedings of the Section on Survey Research Methods* (pp. 194-199). Alexandria, VA: American Statistical Association.

Cochran, W. G. (1963). *Sampling techniques* (2nd ed.). New York: John Wiley & Sons.

Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley & Sons.

Cohen, S. B. (1997). An evaluation of alternative PC-based software packages developed for the analysis of complex survey data. *The American Statistician, 51*, 285-293.

Council of American Research Organizations. (1982). *On the definition of response rates (special report of the CASRO task force on completion rates, Lester R. Frankel, Chair)*. Port Jefferson, NY: Author.

Edwards, J. E., Elig, T. W., & Riemer, R. A. (1997). *Armed Forces 1996 Equal Opportunity Survey: Administration, datasets, and codebook* (Report No. 97-026). Arlington, VA: Defense Manpower Data Center.

Folsom, R. E. (1974). *National assessment approach to sampling error estimation, sampling error* monograph prepared for the National Assessment of Educational Progress (first draft). Research Triangle Park, NC: Research Triangle Institute.

Folsom, R. E. (1991). Exponential and logistic weight adjustments for sampling and nonresponse error reduction. In *1991 Proceedings of the Section on Social Statistics* (pp. 197-202). Alexandria, VA: American Statistical Association.

Folsom, R. E., & Witt, M. B. (1994). Testing a new attrition nonresponse adjustment method for SIPP. In *1994 Proceedings of the Section on Survey Research Methods* (pp. 428-433). Alexandria, VA: American Statistical Association.

Iannacchione, V. G., Milne, J. G., & Folsom, R. E. (1991). Response probability weight adjustments using logistic regression. In *1991 Proceedings of the Section on Survey Research Methods* (pp. 637-642). Alexandria, VA: American Statistical Association.

Kavee, J. D., & Mason, R. E. (1997). *DMDC sample planning tool: User's manual (Version 2.1)* (Report No. 97-028). Arlington, VA: Defense Manpower Data Center.

Magidson, J. (1993). *SPSS® for Windows™: CHAID™, Release 6.0*. Chicago, IL: SPSS Inc.

Mason, R. E., Kavee, J. A., Wheeless, S. C., George, B. J., Riemer, R. A., & Elig, T. W. (1996). *The 1995 Armed Forces Sexual Harassment Survey: Statistical methodology report* (Report No. 96-016). Arlington, VA: Defense Manpower Data Center. (DTIC/NTIS No. AD A323 943)

Mason, R. E., Wheeless, S. C., George, B. J., Kavee, J. A., Riemer, R. A., & Elig, T. W. (1995). Sample allocation for the Status of the Armed Forces Surveys. In *1995 Proceedings of the Section on Survey Research Methods, Vol. II* (pp. 769-774). Alexandria, VA: American Statistical Association.

Rizzo, L., & Nixon, M. (1996). *Nonresponse analysis report for the 1992 DoD Reserve Components Surveys of Officers, Enlisted Personnel, and Spouses* (Contract No. MDA 903-92-C-0226). Arlington, VA: Defense Manpower Data Center.

Rizzo, L., Kalton, G., Brick, M., & Petroni, R. (1994). Adjusting for Panel Nonresponse in the Survey of Income and Program Participation. In *1994 Proceedings of the Section on Survey Research Methods* (pp. 422-427). Alexandria, VA: American Statistical Association.

Sarndal, C. E., Swensson, B., & Wretman, J. (1992). *Model assisted survey sampling*. New York: Springer-Verlag, Inc.

Shah, B., Barnwell, B., Bieler, B. (1996). *SUDAAN user's manual, release 7.0*. Research Triangle Park, NC: Research Triangle Institute.

Wolter, K. M. (1985). *Introduction to variance estimation*. New York: Springer-Verlag, Inc.

Appendix A

Analysis of the *EOS* Using SUDAAN®

This appendix describes the use of the SUDAAN® (Shah, Barnwell, & Bieler, 1996) for the analysis of data from the 1996 *EOS*. SUDAAN® is the Research Triangle Institute's (RTI) software which was developed for analyzing data from complex sample designs. Sections in this appendix discuss: the sample design features that determine the SUDAAN® options to use; the SUDAAN® design options; how SUDAAN® can be used for within-survey comparisons; making statistical comparisons with the results of other surveys; and the use of SUDAAN®'s regression procedures with these data. SUDAAN® uses the Taylor series linearization method for variance estimation of ratios; this method is described in Appendix E. Other software designed for the analysis of complex survey data that would also be appropriate to use is described by Cohen (1997). Refer to Cochran (1977, p. 166) for guidelines on checking the coefficient of variation of the denominator for evaluating the Taylor series variance approximation.

Sample Design Features of the EOS Survey

This section discusses design features that determine the SUDAAN® options to use. *EOS* employed a *stratified, single stage* sample design. Strata were constructed from variables described in the Sample Design section. A simple random sample of persons was selected from each of the strata. The sample was selected *without replacement*; in some of the strata the *sampling fractions* are so large that the *finite population correction factor* (*fpc*) which is used in the variance formula is not negligible. Most surveys use without replacement designs; but in many cases the sampling fraction is small and can be ignored (see Cochran, 1977, p. 25 for guidance on ignoring the fpc). To use the without replacement formulas, the user should include the option **DESIGN=STRWOR** on the PROC statement. *EOS* data could also be analyzed using the with replacement variance estimation option; the estimated variances would be expected to be larger than when the without replacement option is used.

A collapsed strata variable, formed by combining strata with fewer than 25 observations, was formed for use in variance estimation, and is appropriate to use on the SUDAAN® **NEST** statement. The user must also specify the population totals for each stratum in the sample design; this is done through the use of a variable on the SUDAAN® **TOTCNT** statement.

Because all weighted cases are used to estimate the variance structure, all weighted cases are kept on the analysis file, even cases not in the subpopulation of interest. This applies both in the general case of ineligibility and specific cases of analyses focused on a part of the population[5].

[5] The one exception to this rule is that theoretically all cases are not required for variance estimation when the subpopulation is defined by a stratification variable that fully crosses the design (i.e., no part of the stratification variable was collapsed in forming the strata). CSERVICE (with levels for the Army, Navy, Marine Corps, Coast Guard, and AGR/TARs) is the only stratification variable that meets this criterion. This variable is not available on public use files because it could be used when crossed with other variables to identify individuals).

Because ineligibility occurred between sample selection and mailing of the survey (e.g., persons leaving the military or persons dying), the sample included a small number of ineligibles. Sampled persons who could be identified as *ineligibles* are treated as respondents for variance calculations and appear on the file with a positive weight. Ineligibles are needed on the analysis file in order for SUDAAN® to properly calculate the variances. If the proportion of ineligibles is small, whether or not they are included generally makes little practical difference in the variance estimates. There is an eligibility indicator on the *EOS* files which takes values

ELIGFLGW = 1, survey eligible

= 0, survey ineligible

= ., nonrespondent

This variable is used on the **SUBPOPN** statement in SUDAAN® to cause the ineligible persons to be excluded from the estimates, but included properly for variance estimation.

Analysts may only be interested in point estimates for a specifically defined subpopulation, say members of the Army. Although the responses from members of the other Services are not required for point estimates for the Army, they are required for the variance estimates. In this example, the **SUBPOPN** statement would read:

SUBPOPN ELIGFLGW = 1 & XSVC = 1;

See the SUDAAN® manual for details on specifying more complexly defined subpopulations. This example is given here to illustrate the need to keep all weighted cases in the file and to define the subpopulation of interest on the **SUBPOPN** statement.

Design Options

The considerations just described indicate that these SUDAAN® design options should be used:

DESIGN=STRWOR;	Appears on the PROC statement
NEST VSTRAT;	A single variable appears on the NEST statement
TOTCNT NVSTRAT;	A single variable giving the population totals appears on the TOTCNT statement
SUBPOPN ELIGFLGW = 1;	Is used to define the domain of interest for the study, but keep all weighted records on the file for variance estimation (i.e., all cases where WGHT_FLG=1)
WEIGHT ANL_WT;	This is the final weight constructed for analyses

Within Survey Comparisons

Comparing Two Subgroups

For comparing one subgroup with another within a survey (e.g., non-Hispanic Blacks vs. non-Hispanic Whites, the SUDAAN® **DIFFVAR** statement in the **DESCRIPT** and **RATIO** procedures is used to obtain the estimate of the difference and the standard error of that difference. SUDAAN® 6.4 and later versions have options for computing and printing the *t*-statistic and *p*-values.

Comparing Two Analysis Variables

Using a *t*-test with the standard errors printed by SUDAAN® will not give the correct test for comparing the means of two variables from the same questionnaire because these data are measured on the same people and are correlated. SUDAAN® does not have an option that will easily allow the user to compare two analysis variables; it is necessary to work with the data to compute the statistical test. This section demonstrates two ways for using SUDAAN® to perform this type of test.

If the missing data patterns are the same for the two variables then the user can create a new variable which is the difference of the two variables being compared, and use this new variable on the SUDAAN® **VAR** statement.

Another method that is more general and allows not only the comparison of means, but also the comparison of distributions of two variables using the chi square tests in **CROSSTAB** is the trick of doubling the data file and creating a variable with is "1" for the first half of the doubled data and is "2" for the second half. At the same time, the user creates a new analysis variable which is set to the first variable to be compared in the first half of the file, and to the second variable in the second half of the file. There is also a person identification variable (**DMDC_ID**) on the file. Then SUDAAN® is run with the **WOR** option and two variables (**VSTRAT** and **DMDC_ID**) on the **NEST** statement.

These two techniques are best illustrated with an example. Suppose **DESCRIPT** has been used to get the mean of questionnaire items Q10 and Q20. If Q10 and Q20 are 0-1 variables then SUDAAN® would produce estimates of the proportions. A SUDAAN® program for obtaining estimated means and standard errors for the two variables individually consists of the following statements:

```
PROC DESCRIPT DESIGN=STRWOR DATA=EOSDATA;
SUBPOPN ELIGFLGW=1;
NEST VSTRAT;
TOTCNT NVSTRAT;
WEIGHT ANL_WT;
VAR Q10 Q20;
PRINT MEAN SEMEAN;
TITLE "Means for Variables Q10 and Q20";
```

If the missing data patterns are the same for Q10 and Q20, that is, if there is a nonmissing value for Q10 and also Q20, or both are missing simultaneously, and they are continuous (or 0-1 variables) then one method is to compute the difference, Q10 - Q20, for each person in the data file and rerun SUDAAN® using this difference on the VAR statement, as follows:

```
DATA EOS; SET IN.EOSDATA;
DIFF1020=Q10 - Q20;
PROC DESCRIPT DATA=EOSDATA DESIGN=STRWOR FILETYPE=SAS;
SUBPOPN ELIGFLGW=1;
NEST VSTRAT;
TOTCNT NVSTRAT;
WEIGHT ANL_WT;
VAR DIFF1020;
PRINT MEAN SEMEAN T_MEAN P_MEAN;
TITLE "Differences between Q10 and Q20";
```

The difference of the means and the sample sizes printed should correspond to the manually calculated difference of the means and the sample sizes from the previous example.

The following example demonstrates the more general method of doubling the data file.

```
DATA DOUBLE; SET EOSDATA;
/* first variable to be compared */
NEWVAR=Q10;
GROUP=1;
OUTPUT;
/* second variable to be compared */
NEWVAR=Q20;
GROUP=2;
OUTPUT;
PROC SORT DATA=DOUBLE; BY VSTRAT DMDC_ID;
PROC DESCRIPT DATA=DOUBLE DESIGN=WOR;
SUBPOPN ELIGFLGW=1;
NEST VSTRAT DMDC_ID;
TOTCNT NVSTRAT _MINUS1_;
WEIGHT ANL_WT;
VAR NEWVAR;
SUBGROUP _ONE_ GROUP;
LEVELS 1 2;
TABLES _ONE_;
DIFFVAR GROUP=(1,2);
PRINT MEAN SEMEAN T_MEAN P_MEAN;
```

Comparing Estimates from Different Surveys

A t-statistic for independent samples can be used to compare an estimate obtained from one survey with an estimate obtained from an independently selected sample in another survey. For example, the samples for DMDC's 1995 *Sexual Harassment Survey (SHS)* and the 1996 *EOS* are independent. Each of the surveys contains a questionnaire item where the respondents report level of satisfaction with their jobs; this is item Q70 on the *SHS* and item Q26H on the *EOS*.

To compare the proportions of persons who report that they are "very satisfied with their job as a whole," first use SUDAAN to compute the proportions and standard errors for each of the surveys separately. For *EOS* this can be done by first defining a variable which takes the value 1 if the respondent reported "very satisfied" to item Q26H, and the value 0 if the respondent reported any other nonmissing response. Next, use this 0-1 variable on the **VAR** statement in the **DESCRIPT** procedure (with the design options described earlier in this appendix) to obtain the estimated proportion and standard error from the *EOS*; denote the estimated proportion and standard error by p_{EOS} and se_{EOS}.

Similarly, compute the corresponding estimates from the *SHS* using the variable Q70, following the procedures given in the methodology report for that survey (Mason, Wheeless, Kavee, George, Elig, & Riemer, 1996); denote the estimated proportion and standard error by p_{SHS} and se_{SHS}.

To compare the proportions p_{SHS} and p_{EOS}, the following formula is used for computing the standard error of the difference:

$$se_{SHS-EOS} = \sqrt{se_{SHS}^2 + se_{EOS}^2}$$

and this formula to compute the *t*-statistic for testing the difference:

$$t = \frac{p_{SHS} - p_{EOS}}{se_{SHS-EOS}}.$$

Regression Analysis

Linear and logistic regression models for data from this stratified, unequally weighted sample design can be fitted using the SUDAAN® procedures **REGRESS** and **LOGISTIC**. The **NEST**, **WEIGHT**, **DESIGN**=, and **TOTCNT** statements and options are identical to those used in the descriptive procedures.

REGRESS produces design-weighted least squares estimates of the model parameters and their variance-covariance matrix for linear regression models. **LOGISTIC** provides modeling capabilities for dichotomous or ordinal outcome variables using maximum likelihood techniques.

These procedures compute tests of the null hypothesis that individual regression coefficients in the beta vector are equal to zero. They compute tests for overall model significance, model minus intercept, as well as main effects and interaction effects.

Appendix B

Data Tables

Table B-1.

Precision Requirements for the Equal Opportunity Survey

Domain Number	Domain Label	Domain Size[6]	Population Proportion	Prevalence	Precision Constraint[7]
1	All Domains	1,564,329	0.994	0.5	0.02
2	Army	490,125	0.311	0.5	0.02
3	Navy	417,737	0.265	0.5	0.02
4	Marine Corps	172,188	0.109	0.5	0.02
5	Air Force	386,854	0.246	0.5	0.02
6	Coast Guard	34,794	0.022	0.5	0.03
7	AGR/TARS	62,631	0.040	0.5	0.03
8	US	1,306,941	0.831	0.5	0.02
9	Overseas	257,388	0.164	0.5	0.02
10	E1 to E3	362,945	0.231	0.5	0.02
11	E4	315,017	0.200	0.5	0.02
12	E5 to E6	469,402	0.298	0.5	0.02
13	E7 to E9	168,776	0.107	0.5	0.02
14	W1 to O6	248,189	0.158	0.5	0.02
15	non-Hispanic White	1,090,705	0.693	0.5	0.015
16	non-Hispanic Black	298,856	0.190	0.5	0.012
17	Hispanic	95,024	0.060	0.5	0.015
18	Native American	10,231	0.007	0.5	0.015
19	Asian & Pacific Islander	45,924	0.029	0.5	0.015
20	Other	23,589	0.015	0.5	0.025
21	Army * non-Hispanic White	300,690	0.191	0.5	0.03
22	Army * non-Hispanic Black	132,843	0.084	0.5	0.03
23	Army * Hispanic	26,872	0.017	0.5	0.03
24	Army * Asian & Pacific Islander	11,233	0.007	0.5	0.03
25	Navy * non-Hispanic White	290,210	0.184	0.5	0.03
26	Navy * non-Hispanic Black	71,379	0.045	0.5	0.03
27	Navy * Hispanic	30,618	0.019	0.5	0.03
28	Navy * Asian & Pacific Islander	21,605	0.014	0.5	0.03
29	Marine Corps * non-Hispanic White	121,499	0.077	0.5	0.03
30	Marine Corps * non-Hispanic Black	27,079	0.017	0.5	0.03
31	Marine Corps * Hispanic	17,207	0.011	0.5	0.03
32	Marine Corps * Asian & Pacific Islander	3,116	0.002	0.5	0.03
33	Air Force * non-Hispanic White	300,474	0.191	0.5	0.03
34	Air Force * non-Hispanic Black	57,086	0.036	0.5	0.03
35	Air Force * Hispanic	15,001	0.010	0.5	0.03
36	Air Force * Asian & Pacific Islander	7,895	0.005	0.5	0.03
37	Coast Guard * non-Hispanic White	28,922	0.018	0.5	0.04
38	Coast Guard * non-Hispanic Black	2,322	0.001	0.5	0.04
39	Coast Guard * Hispanic	1,982	0.001	0.5	0.04
40	Coast Guard * Asian & Pacific Islander	775	0.000	0.5	0.04
41	AGR/TARS * non-Hispanic White	48,910	0.031	0.5	0.05
42	AGR/TARS * non-Hispanic Black	8,147	0.005	0.5	0.05
43	AGR/TARS * Hispanic	3,344	0.002	0.5	0.05
44	AGR/TARS * Asian & Pacific Islander	1,300	0.001	0.5	0.05
45	Male * non-Hispanic White	970,257	0.617	0.5	0.05
46	Male * non-Hispanic Black	236,617	0.150	0.5	0.05

[6] The domain sizes exclude 9,334 persons classified into the unknown stratum.

[7] The precision constraint is given as the maximum half-width of a 95% confidence interval.

* Crossed with.

+ Domains that were combined.

Table B-1. (continued)

Domain Number	Domain Label	Domain Size	Population Proportion	Prevalence	Precision Constraint
47	Male * Hispanic	83,402	0.053	0.5	0.05
48	Male * Asian & Pacific Islander	40,271	0.026	0.5	0.05
49	Female * non-Hispanic White	120,423	0.077	0.5	0.05
50	Female * non-Hispanic Black	62,235	0.040	0.5	0.05
51	Female * Hispanic	11,620	0.007	0.5	0.05
52	Female * Asian & Pacific Islander	5,653	0.004	0.5	0.05
53	Female * Native American & Other	5,117	0.003	0.5	
54	Army * E1 to E4 * non-Hispanic White	139,706	0.089	0.5	0.05
55	Army * E1 to E4 * non-Hispanic Black	55,347	0.035	0.5	0.05
56	Army * E1 to E4 * Hispanic	13,800	0.009	0.5	0.05
57	Army * E1 to E4 * Asian & Pacific Islander + Native American + Other	13,161	0.008	0.5	0.05
58	Army * E5 to E9 * non-Hispanic White	96,796	0.062	0.5	0.05
59	Army * E5 to E9 * non-Hispanic Black	68,287	0.043	0.5	0.05
60	Army * E5 to E9 * Hispanic	10,440	0.007	0.5	0.05
61	Army * E5 to E9 * Asian & Pacific Islander + Native American + Other	12,929	0.008	0.5	0.05
62	Army * W1 to O6 * non-Hispanic White	64,188	0.041	0.5	0.05
63	Army * W1 to O6 * non-Hispanic Black	9,209	0.006	0.5	0.05
64	Army * W1 to O6 * Hispanic	2,632	0.002	0.5	0.05
65	Army * W1 to O6 * Asian & Pacific Islander + Native American + Other	3,630	0.002	0.5	0.05
66	Navy * E1 to E4 * non-Hispanic White	115,545	0.073	0.5	0.05
67	Navy * E1 to E4 * non-Hispanic Black	37,550	0.024	0.5	0.05
68	Navy * E1 to E4 * Hispanic	18,875	0.012	0.5	0.05
69	Navy * E1 to E4 * Asian & Pacific Islander + Native American + Other	9,656	0.006	0.5	0.05
70	Navy * E5 to E9 * non-Hispanic White	125,530	0.080	0.5	0.05
71	Navy * E5 to E9 * non-Hispanic Black	30,592	0.019	0.5	0.05
72	Navy * E5 to E9 * Hispanic	9,835	0.006	0.5	0.05
73	Navy * E5 to E9 * Asian & Pacific Islander + Native American + Other	13,720	0.009	0.5	0.05
74	Navy * W1 to O6 * non-Hispanic White	49,135	0.031	0.5	0.05
75	Navy * W1 to O6 * non-Hispanic Black	3,237	0.002	0.5	0.05
76	Navy * W1 to O6 * Hispanic	1,908	0.001	0.5	0.05
77	Navy * W1 to O6 * Asian & Pacific Islander + Native American + Other	2,154	0.001	0.5	0.05
78	Marine Corps * E1 to E4 * non-Hispanic White	74,429	0.047	0.5	0.05
79	Marine Corps * E1 to E4 * non-Hispanic Black	14,016	0.009	0.5	0.05
80	Marine Corps * E1 to E4 * Hispanic	12,312	0.008	0.5	0.05
81	Marine Corps * E1 to E4 * Asian & Pacific Islander + Native American + Other.	4,308	0.003	0.5	0.05
82	Marine Corps * E5 to E9 * non-Hispanic White	31,370	0.020	0.5	0.05
83	Marine Corps * E5 to E9 * non-Hispanic Black	11,987	0.008	0.5	0.05
84	Marine Corps * E5 to E9 * Hispanic	4,206	0.003	0.5	0.05

Table B-1. (continued)

Domain Number	Domain Label	Domain Size	Population Proportion	Prevalence	Precision Constraint
85	Marine Corps * E5 to E9 * Asian & Pacific Islander + Native American + Other	1,649	0.001	0.5	0.05
86	Marine Corps * W1 to O6 * non-Hispanic White	15,700	0.010	0.5	0.05
87	Marine Corps * W1 to O6 * non-Hispanic Black	1,076	0.001	0.5	0.05
88	Marine Corps * W1 to O6 * Hispanic	689	0.000	0.5	0.05
89	Marine Corps * W1 to O6 * Asian & Pacific Islander + Native American + Other	446	0.000	0.5	0.05
90	Air Force * E1 to E4 * non-Hispanic White	117,958	0.075	0.5	0.05
91	Air Force * E1 to E4 * non-Hispanic Black	22,058	0.014	0.5	0.05
92	Air Force * E1 to E4 * Hispanic	7,142	0.005	0.5	0.05
93	Air Force * E1 to E4 * Asian & Pacific Islander + Native American + Other	5,571	0.004	0.5	0.05
94	Air Force * E5 to E9 * non-Hispanic White	115,776	0.074	0.5	0.05
95	Air Force * E5 to E9 * non-Hispanic Black	30,753	0.020	0.5	0.05
96	Air Force * E5 to E9 * Hispanic	6,332	0.004	0.5	0.05
97	Air Force * E5 to E9 * Asian & Pacific Islander + Native American + Other	5,664	0.004	0.5	0.05
98	Air Force * W1 to O6 * non-Hispanic White	66,740	0.042	0.5	0.05
99	Air Force * W1 to O6 * non-Hispanic Black	4,275	0.003	0.5	0.05
100	Air Force * W1 to O6 * Hispanic	1,527	0.001	0.5	0.05
101	Air Force * W1 to O6 * Asian & Pacific Islander + Native American + Other	3,058	0.002	0.5	0.05
102	Coast Guard * E1 to E4 * non-Hispanic White	10,048	0.006	0.5	0.05
103	Coast Guard * E1 to E4 * non-Hispanic Black	830	0.001	0.5	0.05
104	Coast Guard * E1 to E4 * Hispanic	1,065	0.001	0.5	0.05
105	Coast Guard * E1 to E4 * Asian & Pacific Islander + Native American + Other	894	0.001	0.5	0.05
106	Coast Guard * E5 to E9 * non-Hispanic White	12,381	0.008	0.5	0.05
107	Coast Guard * E5 to E9 * non-Hispanic Black	1,277	0.001	0.5	0.05
108	Coast Guard * E5 to E9 * Hispanic	711	0.000	0.5	0.05
109	Coast Guard * E5 to E9 * Asian & Pacific Islander + Native American + Other	447	0.000	0.5	0.05
110	Coast Guard * W1 to O6 * non-Hispanic White	6,493	0.004	0.5	0.08
111	Coast Guard * W1 to O6 * non-Hispanic Black	215	0.000	0.5	0.08
112	Coast Guard * W1 to O6 * Hispanic	206	0.000	0.5	0.08
113	Coast Guard * W1 to O6 * Asian & Pacific Islander + Native American + Other	227	0.000	0.5	0.08
114	E1 to E3 * non-Hispanic White	244,231	0.155	0.5	0.04
115	E1 to E3 * non-Hispanic Black	67,445	0.043	0.5	0.04
116	E1 to E3 * Hispanic	33,398	0.021	0.5	0.04

Table B-1. (continued)

Domain Number	Domain Label	Domain Size	Population Proportion	Prevalence	Precision Constraint
117	E4 * non-Hispanic White	215,973	0.137	0.5	0.04
118	E4 * non-Hispanic Black	63,024	0.040	0.5	0.04
119	E4 * Hispanic	20,151	0.013	0.5	0.04
120	E5 to E6 * non-Hispanic White	304,949	0.194	0.5	0.04
121	E5 to E6 * non-Hispanic Black	112,725	0.072	0.5	0.04
122	E5 to E6 * Hispanic	25,566	0.016	0.5	0.04
123	E5 to E6 * Asian & Pacific Islander + Native American + Other	26,162	0.017	0.5	
124	E7 to E9 * non-Hispanic White	113,294	0.072	0.5	0.04
125	E7 to E9 * non-Hispanic Black	36,918	0.023	0.5	0.04
126	E7 to E9 * Hispanic	8,578	0.005	0.5	0.04
127	W1 to O3 * non-Hispanic White	130,167	0.083	0.5	0.04
128	W1 to O3 * non-Hispanic Black	12,796	0.008	0.5	0.04
129	W1 to O3 * Hispanic	5,171	0.003	0.5	0.04
130	O4 to O6 * non-Hispanic White	82,091	0.052	0.5	0.04
131	O4 to O6 * non-Hispanic Black	5,948	0.004	0.5	0.04
132	O4 to O6 * Hispanic	2,160	0.001	0.5	0.04
133	E1 to E3 * Native American	3,224	0.002	0.5	0.04
134	E1 to E3 * Asian & Pacific Islander	10,536	0.007	0.5	0.04
135	E4 * Native American	2,098	0.001	0.5	0.04
136	E4 * Asian & Pacific Islander	8,604	0.005	0.5	0.04
137	E5 to E6 * Native American	2,642	0.002	0.5	0.04
138	E5 to E6 * Asian & Pacific Islander	15,294	0.010	0.5	0.04
139	E7 to E9 * Native American	1,128	0.001	0.5	0.04
140	E7 to E9 * Asian & Pacific Islander	5,758	0.004	0.5	0.04
141	W1 to O3 * Native American	752	0.000	0.5	0.04
142	W1 to O3 * Asian & Pacific Islander	4,134	0.003	0.5	0.04
143	O4 to O6 * Native American	387	0.000	0.5	0.04
144	O4 to O6 * Asian & Pacific Islander	1,598	0.001	0.5	0.04
145	Male * Native American	8,452	0.005	0.5	0.05
146	Female * Native American	1,779	0.001	0.5	0.05
147	Army * Native American	3,016	0.002	0.5	0.03
148	Navy * Native American	2,444	0.002	0.5	0.03
149	Marine Corps * Native American	1,456	0.001	0.5	0.03
150	Air Force * Native American	2,011	0.001	0.5	0.03
151	Coast Guard * Native American	793	0.001	0.5	0.04
152	AGR/TARS * Native American	511	0.000	0.5	0.05
153	US * non-Hispanic White	921,793	0.586	0.5	0.03
154	US * non-Hispanic Black	242,348	0.154	0.5	0.03
155	US * Hispanic	78,754	0.050	0.5	0.03
156	US * Asian & Pacific Islander	36,760	0.023	0.5	0.03
157	Overseas * non-Hispanic White	168,912	0.107	0.5	0.03
158	Overseas * non-Hispanic Black	56,508	0.036	0.5	0.03
159	Overseas * Hispanic	16,270	0.010	0.5	0.03
160	Overseas * Asian & Pacific Islander	9,164	0.006	0.5	0.03
161	US * Native American	8,627	0.005	0.5	0.03
162	US * Asian & Pacific Islander	36,760	0.023	0.5	0.03
163	Europe * non-Hispanic White	78,018	0.050	0.5	0.05
164	Europe * non-Hispanic Black	27,985	0.018	0.5	0.05
165	Europe * Hispanic	5,962	0.004	0.5	0.05
166	Europe * Native American	650	0.000	0.5	0.05

Table B-1. (continued)

Domain Number	Domain Label	Domain Size	Population Proportion	Prevalence	Precision Constraint
167	Europe * Asian & Pacific Islander	2,438	0.002	0.5	0.05
168	Asia & Pacific Islands * non-Hispanic White	62,486	0.040	0.5	0.05
169	Asia & Pacific Islands * non-Hispanic Black	21,442	0.014	0.5	0.05
170	Asia & Pacific Islands * Hispanic	6,294	0.004	0.5	0.05
171	Asia & Pacific Islands * Native American	661	0.000	0.5	0.05
172	Asia & Pacific Islands * Asian & Pacific Islander	5,250	0.003	0.5	0.05

Table B-2.
Stratum Definitions

Stratum Number	Stratum Size	Dimensions	Levels
1	53,676	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
2	19,657	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
3	6,193	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
4	668	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
5	2,077	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
6	1,813	Service/Component	Army
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Other
7	56,847	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
8	23,380	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
9	4,828	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	Hispanic
10	591	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	Native American
11	2,112	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
12	3,041	Service/Component	Army
		Location	US
		Paygrade	E4
		Race/Ethnicity	Other
13	54,387	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
14	36,511	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
15	5,157	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
16	575	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
17	1,982	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
18	4,374	Service/Component	Army
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Other
19	21,715	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
20	15,221	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
21	2,819	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
22	221	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
23	883	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
24	1,688	Service/Component	Army
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Other
25	52,388	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
26	7,493	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
27	2,055	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
28	305	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
29	1,568	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
30	1,002	Service/Component	Army
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Other
31	10,765	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
32	4,096	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
33	1,139	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
34	126	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
35	466	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
36	339	Service/Component	Army
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Other
37	18,418	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
38	8,214	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
39	1,640	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Hispanic

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
40	205	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Native American
41	738	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
42	985	Service/Component	Army
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Other
43	15,878	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
44	12,344	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
45	1,705	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
46	180	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
47	697	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
48	1,465	Service/Component	Army
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Other
49	4,816	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
50	4,211	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
51	759	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
52	60	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Native American

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
53	283	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
54	521	Service/Component	Army
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Other
55	11,800	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
56	1,716	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
57	577	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
58	85	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
59	427	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
60	243	Service/Component	Army
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Other
61	60,920	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
62	20,078	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
63	10,904	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
64	916	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
65	3,987	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
66	177	Service/Component	Navy
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Other
67	40,509	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
68	13,263	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
69	5,755	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	Hispanic
70	380	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	Native American
71	2,793	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
72	74	Service/Component	Navy
		Location	US
		Paygrade	E4
		Race/Ethnicity	Other
73	85,127	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
74	22,972	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
75	7,311	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
76	522	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
77	6,857	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
78	559	Service/Component	Navy
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Other

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
79	25,725	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
80	3,317	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
81	995	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
82	141	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
83	2,536	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
84	241	Service/Component	Navy
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Other
85	41,545	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
86	2,646	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
87	1,558	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
88	187	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
89	1,363	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
90	169	Service/Component	Navy
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Other
91	7,736	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
92	2,448	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
93	1,290	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
94	90	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
95	527	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
96	18	Service/Component	Navy
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Other
97	6,380	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
98	1,761	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
99	926	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Hispanic
100	66	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Native American
101	614	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
102	14	Service/Component	Navy
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Other
103	11,558	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
104	3,798	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
105	1,368	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
106	84	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
107	2,006	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
108	127	Service/Component	Navy
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Other
109	3,120	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
110	505	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
111	161	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
112	12	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
113	581	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
114	54	Service/Component	Navy
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Other
115	7,590	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
116	591	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
117	350	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
118	46	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
119	341	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
120	48	Service/Component	Navy
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Other
121	51,727	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
122	10,086	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
123	9,053	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
124	804	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
125	1,405	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
126	874	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Other
127	22,702	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
128	3,930	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
129	3,259	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Hispanic
130	248	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Native American

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
131	590	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
132	387	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Other
133	23,122	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
134	8,624	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
135	3,133	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
136	231	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
137	639	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
138	373	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Other
139	8,248	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
140	3,363	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
141	1,073	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
142	66	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
143	215	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
144	125	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Other
145	15,700	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
146	1,076	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
147	689	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
148	107	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
149	267	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
150	72	Service/Component	Marine Corps
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Other
151	47,790	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
152	9,286	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
153	3,679	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
154	314	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
155	1,637	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
156	809	Service/Component	Air Force
		Location	US
		Paygrade	E1 to E3
		Race/Ethnicity	Other

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
157	51,083	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
158	8,756	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
159	2,372	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	Hispanic
160	239	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	Native American
161	1,173	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
162	490	Service/Component	Air Force
		Location	US
		Paygrade	E4
		Race/Ethnicity	Other
163	69,568	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
164	17,235	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
165	3,666	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
166	488	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
167	1,671	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
168	801	Service/Component	Air Force
		Location	US
		Paygrade	E5 to E6
		Race/Ethnicity	Other
169	25,370	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
170	6,320	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
171	1,378	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
172	352	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
173	621	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
174	256	Service/Component	Air Force
		Location	US
		Paygrade	E7 to E9
		Race/Ethnicity	Other
175	59,345	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
176	3,734	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
177	1,312	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
178	275	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
179	1,163	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
180	1,238	Service/Component	Air Force
		Location	US
		Paygrade	W1 to O6
		Race/Ethnicity	Other
181	6,133	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
182	1,231	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
183	453	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
184	53	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Native American
185	192	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
186	78	Service/Component	Air Force
		Location	Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Other
187	12,952	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
188	2,785	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
189	638	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Hispanic
190	64	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Native American
191	364	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
192	158	Service/Component	Air Force
		Location	Overseas
		Paygrade	E4
		Race/Ethnicity	Other
193	15,808	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
194	5,540	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
195	963	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
196	129	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
197	676	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
198	305	Service/Component	Air Force
		Location	Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Other
199	5,030	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
200	1,658	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
201	325	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
202	71	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
203	214	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
204	80	Service/Component	Air Force
		Location	Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Other
205	7,395	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
206	541	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
207	215	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
208	26	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
209	184	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
210	172	Service/Component	Air Force
		Location	Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Other
211	4,903	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic White
212	403	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	non-Hispanic Black
213	600	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Hispanic
214	243	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Native American + Other
215	215	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E1 to E3
		Race/Ethnicity	Asian & Pacific Islander
216	5,145	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic White
217	427	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	non-Hispanic Black
218	465	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Hispanic
219	285	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Native American + Other
220	151	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E4
		Race/Ethnicity	Asian & Pacific Islander
221	12,381	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E5 to E6 + E7 to E9
		Race/Ethnicity	non-Hispanic White

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
222	1,277	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E5 to E6 + E7 to E9
		Race/Ethnicity	non-Hispanic Black
223	711	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E5 to E6 + E7 to E9
		Race/Ethnicity	Hispanic
224	226	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E5 to E6 + E7 to E9
		Race/Ethnicity	Native American + Other
225	221	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	E5 to E6 + E7 to E9
		Race/Ethnicity	Asian & Pacific Islander
226	6,493	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
227	215	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
228	206	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
229	39	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American + Other
230	188	Service/Component	Coast Guard
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
231	2,518	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	non-Hispanic White
232	668	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	non-Hispanic Black
233	355	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	Hispanic
234	30	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	Native American

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
235	99	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	Asian & Pacific Islander
236	21	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E1 to E3 + E4
		Race/Ethnicity	Other
237	20,094	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic White
238	4,686	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	non-Hispanic Black
239	1,658	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Hispanic
240	225	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Native American
241	618	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Asian & Pacific Islander
242	222	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E5 to E6
		Race/Ethnicity	Other
243	16,296	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic White
244	2,061	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	non-Hispanic Black
245	962	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Hispanic
246	187	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Native American
247	352	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Asian & Pacific Islander

Table B-2. (continued)

Stratum Number	Stratum Size	Dimensions	Levels
248	135	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	E7 to E9
		Race/Ethnicity	Other
249	10,002	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic White
250	732	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	non-Hispanic Black
251	369	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Hispanic
252	69	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Native American
253	231	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Asian & Pacific Islander
254	41	Service/Component	AGR/TARS
		Location	US + Overseas
		Paygrade	W1 to O6
		Race/Ethnicity	Other
255	9,334	Unknown	

Table B-3.
Design Response Rates and Cost Coefficients

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
1	Army * US * E1 to E3 * non-Hispanic White	0.362	$16.14
2	Army * US * E1 to E3 * non-Hispanic Black	0.430	$13.87
3	Army * US * E1 to E3 * Hispanic	0.483	$12.54
4	Army * US * E1 to E3 * Native American	0.439	$13.62
5	Army * US * E1 to E3 * Asian & Pacific Islander	0.596	$10.51
6	Army * US * E1 to E3* Other	0.439	$13.62
7	Army * US * E4 * non-Hispanic White	0.353	$16.51
8	Army * US * E4 * non-Hispanic Black	0.436	$13.70
9	Army * US * E4 * Hispanic	0.497	$12.24
10	Army * US * E4 * Native American	0.397	$14.87
11	Army * US * E4 *Asian & Pacific Islander	0.593	$10.55
12	Army * US * E4 * Other	0.397	$14.87
13	Army * US * E5 to E6 * non-Hispanic White	0.469	$12.86
14	Army * US * E5 to E6 * non-Hispanic Black	0.538	$11.44
15	Army * US * E5 to E6 * Hispanic	0.639	$9.93
16	Army * US * E5 to E6 * Native American	0.524	$11.70
17	Army * US * E5 to E6 * Asian & Pacific Islander	0.670	$9.56
18	Army * US * E5 to E6 * Other	0.524	$11.70
19	Army * US * E7 to E9 * non-Hispanic White	0.577	$10.79
20	Army * US * E7 to E9 * non-Hispanic Black	0.656	$9.72
21	Army * US * E7 to E9 *Hispanic	0.672	$9.53
22	Army * US * E7 to E9 * Native American	0.625	$10.11
23	Army * US * E7 to E9 * Asian & Pacific Islander	0.687	$9.37
24	Army * US * E7 to E9 * Other	0.625	$10.11
25	Army * US * W1 to O6 * non-Hispanic White	0.571	$10.89
26	Army * US * W1 to O6 * non-Hispanic Black	0.609	$10.32
27	Army * US * W1 to O6 * Hispanic	0.643	$9.88
28	Army * US * W1 to O6 * Native American	0.582	$10.72
29	Army * US * W1 to O6 * Asian & Pacific Islander	0.723	$9.00
30	Army * US * W1 to O6 * Other	0.582	$10.72
31	Army * Overseas * E1 to E3 * non-Hispanic White	0.327	$17.69
32	Army * Overseas * E1 to E3 * non-Hispanic Black	0.355	$16.43
33	Army * Overseas * E1 to E3 * Hispanic	0.453	$13.25
34	Army * Overseas * E1 to E3 * Native American	0.366	$15.98
35	Army * Overseas * E1 to E3 * Asian & Pacific Islander	0.577	$10.79
36	Army * Overseas * E1 to E3 * Other	0.366	$15.98
37	Army * Overseas * E4 * non-Hispanic White	0.272	$20.92
38	Army * Overseas * E4 * non-Hispanic Black	0.315	$18.29
39	Army * Overseas * E4 * Hispanic	0.420	$14.15
40	Army * Overseas * E4 * Native American	0.278	$20.50
41	Army * Overseas * E4 * Asian & Pacific Islander	0.527	$11.64
42	Army * Overseas * E4 * Other	0.278	$20.50
43	Army * Overseas * E5 to E6 * non-Hispanic White	0.375	$15.64
44	Army * Overseas * E5 to E6 * non-Hispanic Black	0.403	$14.68
45	Army * Overseas * E5 to E6 * Hispanic	0.549	$11.25
46	Army * Overseas * E5 to E6 * Native American	0.392	$15.04
47	Army * Overseas * E5 to E6 * Asian & Pacific Islander	0.591	$10.58
48	Army * Overseas * E5 to E6 * Other	0.392	$15.04
49	Army * Overseas * E7 to E9 * non-Hispanic White	0.447	$13.41
50	Army * Overseas * E7 to E9 * non-Hispanic Black	0.485	$12.50
51	Army * Overseas * E7 to E9 * Hispanic	0.546	$11.30

Table B-3. (continued)

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
52	Army * Overseas * E7 to E9 * Native American	0.457	$13.15
53	Army * Overseas * E7 to E9 * Asian & Pacific Islander	0.572	$10.87
54	Army * Overseas * E7 to E9 * Other	0.457	$13.15
55	Army * Overseas * W1 to O6 * non-Hispanic White	0.523	$11.72
56	Army * Overseas * W1 to O6 * non-Hispanic Black	0.520	$11.78
57	Army * Overseas * W1 to O6 * Hispanic	0.599	$10.47
58	Army * Overseas * W1 to O6 * Native American	0.496	$12.26
59	Army * Overseas * W1 to O6 * Asian & Pacific Islander	0.690	$9.33
60	Army * Overseas * W1 to O6 * Other	0.496	$12.26
61	Navy * US * E1 to E3 * non-Hispanic White	0.408	$14.52
62	Navy * US * E1 to E3 * non-Hispanic Black	0.465	$12.96
63	Navy * US * E1 to E3 * Hispanic	0.473	$12.77
64	Navy * US * E1 to E3 * Native American	0.711	$9.11
65	Navy * US * E1 to E3 * Asian & Pacific Islander	0.581	$10.73
66	Navy * US * E1 to E3 * Other	0.711	$9.11
67	Navy * US * E4 * non-Hispanic White	0.480	$12.61
68	Navy * US * E4 * non-Hispanic Black	0.552	$11.20
69	Navy * US * E4 * Hispanic	0.567	$10.95
70	Navy * US * E4 * Native American	0.749	$8.75
71	Navy * US * E4 * Asian & Pacific Islander	0.658	$9.70
72	Navy * US * E4 * Other	0.749	$8.75
73	Navy * US * E5 to E6 * non-Hispanic White	0.613	$10.27
74	Navy * US * E5 to E6 * non-Hispanic Black	0.670	$9.56
75	Navy * US * E5 to E6 * Hispanic	0.726	$8.97
76	Navy * US * E5 to E6 * Native American	0.893	$7.66
77	Navy * US * E5 to E6 * Asian & Pacific Islander	0.753	$8.71
78	Navy * US * E5 to E6 * Other	0.893	$7.66
79	Navy * US * E7 to E9 * non-Hispanic White	0.720	$9.02
80	Navy * US * E7 to E9 * non-Hispanic Black	0.787	$8.42
81	Navy * US * E7 to E9 * Hispanic	0.758	$8.67
82	Navy * US * E7 to E9 * Native American	0.993	$7.09
83	Navy * US * E7 to E9 * Asian & Pacific Islander	0.768	$8.58
84	Navy * US * E7 to E9 * Other	0.993	$7.09
85	Navy * US * W1 to O6 * non-Hispanic White	0.674	$9.51
86	Navy * US * W1 to O6 * non-Hispanic Black	0.700	$9.23
87	Navy * US * W1 to O6 * Hispanic	0.690	$9.33
88	Navy * US * W1 to O6 * Native American	0.911	$7.55
89	Navy * US * W1 to O6 * Asian & Pacific Islander	0.765	$8.61
90	Navy * US * W1 to O6 * Other	0.911	$7.55
91	Navy * Overseas * E1 to E3 * non-Hispanic White	0.456	$13.18
92	Navy * Overseas * E1 to E3 * non-Hispanic Black	0.472	$12.79
93	Navy * Overseas * E1 to E3 * Hispanic	0.525	$11.68
94	Navy * Overseas * E1 to E3 * Native American	0.721	$9.01
95	Navy * Overseas * E1 to E3 * Asian & Pacific Islander	0.644	$9.87
96	Navy * Overseas * E1 to E3 * Other	0.721	$9.01
97	Navy * Overseas * E4 * non-Hispanic White	0.482	$12.56
98	Navy * Overseas * E4 * non-Hispanic Black	0.512	$11.93
99	Navy * Overseas * E4 * Hispanic	0.573	$10.86
100	Navy * Overseas * E4 * Native American	0.713	$9.09
101	Navy * Overseas * E4 * Asian & Pacific Islander	0.675	$9.50
102	Navy * Overseas * E4 * Other	0.713	$9.09
103	Navy * Overseas * E5 to E6 * non-Hispanic White	0.601	$10.44

Table B-3. (continued)

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
104	Navy * Overseas * E5 to E6 * non-Hispanic Black	0.617	$10.22
105	Navy * Overseas * E5 to E6 * Hispanic	0.718	$9.04
106	Navy * Overseas * E5 to E6 * Native American	0.843	$7.99
107	Navy * Overseas * E5 to E6 * Asian & Pacific Islander	0.756	$8.69
108	Navy * Overseas * E5 to E6 * Other	0.843	$7.99
109	Navy * Overseas * E7 to E9 * non-Hispanic White	0.672	$9.53
110	Navy * Overseas * E7 to E9 * non-Hispanic Black	0.699	$9.24
111	Navy * Overseas * E7 to E9 * Hispanic	0.714	$9.08
112	Navy * Overseas * E7 to E9 * Native American	0.907	$7.57
113	Navy * Overseas * E7 to E9 * Asian & Pacific Islander	0.735	$8.88
114	Navy * Overseas * E7 to E9 * Other	0.907	$7.57
115	Navy * Overseas * W1 to O6 * non-Hispanic White	0.709	$9.13
116	Navy * Overseas * W1 to O6 * non-Hispanic Black	0.694	$9.29
117	Navy * Overseas * W1 to O6 * Hispanic	0.728	$8.95
118	Navy * Overseas * W1 to O6 * Native American	0.907	$7.57
119	Navy * Overseas * W1 to O6 * Asian & Pacific Islander	0.814	$8.21
120	Navy * Overseas * W1 to O6 * Other	0.907	$7.57
121	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic White	0.437	$13.67
122	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic Black	0.461	$13.05
123	Marine Corps * US + Overseas * E1 to E3 * Hispanic	0.482	$12.56
124	Marine Corps * US + Overseas * E1 to E3 * Native American	0.560	$11.07
125	Marine Corps * US + Overseas * E1 to E3 * Asian & Pacific Islander	0.545	$11.32
126	Marine Corps * US + Overseas * E1 to E3 * Other	0.560	$11.07
127	Marine Corps * US + Overseas * E4 * non-Hispanic White	0.407	$14.55
128	Marine Corps * US + Overseas * E4 * non-Hispanic Black	0.446	$13.43
129	Marine Corps * US + Overseas * E4 * Hispanic	0.474	$12.74
130	Marine Corps * US + Overseas * E4 * Native American	0.496	$12.26
131	Marine Corps * US + Overseas * E4 * Asian & Pacific Islander	0.520	$11.78
132	Marine Corps * US + Overseas * E4 * Other	0.496	$12.26
133	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic White	0.549	$11.25
134	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic Black	0.573	$10.86
135	Marine Corps * US + Overseas * E5 to E6 * Hispanic	0.642	$9.89
136	Marine Corps * US + Overseas * E5 to E6 * Native American	0.650	$9.79
137	Marine Corps * US + Overseas * E5 to E6 * Asian & Pacific Islander	0.624	$10.12
138	Marine Corps * US + Overseas * E5 to E6 * Other	0.650	$9.79
139	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic White	0.641	$9.90
140	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic Black	0.675	$9.50
141	Marine Corps * US + Overseas * E7 to E9 * Hispanic	0.659	$9.68
142	Marine Corps * US + Overseas * E7 to E9 * Native American	0.734	$8.89
143	Marine Corps * US + Overseas * E7 to E9 * Asian & Pacific Islander	0.624	$10.12
144	Marine Corps * US + Overseas * E7 to E9 * Other	0.734	$8.89
145	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic White	0.630	$10.04
146	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic Black	0.623	$10.13
147	Marine Corps * US + Overseas * W1 to O6 * Hispanic	0.625	$10.11
148	Marine Corps * US + Overseas * W1 to O6 * Native American	0.687	$9.37
149	Marine Corps * US + Overseas * W1 to O6 * Asian & Pacific Islander	0.656	$9.72
150	Marine Corps * US + Overseas * W1 to O6 * Other	0.687	$9.37
151	Air Force * US * E1 to E3 * non-Hispanic White	0.565	$10.98
152	Air Force * US * E1 to E3 * non-Hispanic Black	0.617	$10.22

Table B-3. (continued)

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
153	Air Force * US * E1 to E3 * Hispanic	0.626	$10.10
154	Air Force * US * E1 to E3 * Native American	0.671	$9.54
155	Air Force * US * E1 to E3 * Asian & Pacific Islander	0.703	$9.20
156	Air Force * US * E1 to E3 * Other	0.671	$9.54
157	Air Force * US * E4 * non-Hispanic White	0.547	$11.29
158	Air Force * US * E4 * non-Hispanic Black	0.613	$10.27
159	Air Force * US * E4 * Hispanic	0.630	$10.04
160	Air Force * US * E4 * Native American	0.619	$10.19
161	Air Force * US * E4 * Asian & Pacific Islander	0.690	$9.33
162	Air Force * US * E4 * Other	0.619	$10.19
163	Air Force * US * E5 to E6 * non-Hispanic White	0.655	$9.73
164	Air Force * US * E5 to E6 * non-Hispanic Black	0.707	$9.16
165	Air Force * US * E5 to E6 * Hispanic	0.764	$8.62
166	Air Force * US * E5 to E6 * Native American	0.738	$8.85
167	Air Force * US * E5 to E6 * Asian & Pacific Islander	0.760	$8.65
168	Air Force * US * E5 to E6 * Other	0.738	$8.85
169	Air Force * US * E7 to E9 * non-Hispanic White	0.691	$9.32
170	Air Force * US * E7 to E9 * non-Hispanic Black	0.753	$8.71
171	Air Force * US * E7 to E9 * Hispanic	0.725	$8.98
172	Air Force * US * E7 to E9 * Native American	0.767	$8.59
173	Air Force * US * E7 to E9 * Asian & Pacific Islander	0.704	$9.19
174	Air Force * US * E7 to E9 * Other	0.767	$8.59
175	Air Force * US * W1 to O6 * non-Hispanic White	0.649	$9.80
176	Air Force * US * W1 to O6 * non-Hispanic Black	0.669	$9.57
177	Air Force * US * W1 to O6 * Hispanic	0.660	$9.67
178	Air Force * US * W1 to O6 * Native American	0.688	$9.36
179	Air Force * US * W1 to O6 * Asian & Pacific Islander	0.705	$9.18
180	Air Force * US * W1 to O6 * Other	0.688	$9.36
181	Air Force * Overseas * E1 to E3 * non-Hispanic White	0.567	$10.95
182	Air Force * Overseas * E1 to E3 * non-Hispanic Black	0.577	$10.79
183	Air Force * Overseas * E1 to E3 * Hispanic	0.632	$10.02
184	Air Force * Overseas * E1 to E3 * Native American	0.634	$9.99
185	Air Force * Overseas * E1 to E3 * Asian & Pacific Islander	0.720	$9.02
186	Air Force * Overseas * E1 to E3 * Other	0.634	$9.99
187	Air Force * Overseas * E4 * non-Hispanic White	0.503	$12.11
188	Air Force * Overseas * E4 * non-Hispanic Black	0.528	$11.63
189	Air Force * Overseas * E4 * Hispanic	0.590	$10.60
190	Air Force * Overseas * E4 * Native American	0.537	$11.46
191	Air Force * Overseas * E4 * Asian & Pacific Islander	0.661	$9.66
192	Air Force * Overseas * E4 * Other	0.537	$11.46
193	Air Force * Overseas * E5 to E6 * non-Hispanic White	0.597	$10.49
194	Air Force * Overseas * E5 to E6 * non-Hispanic Black	0.608	$10.34
195	Air Force * Overseas * E5 to E6 * Hispanic	0.711	$9.11
196	Air Force * Overseas * E5 to E6 * Native American	0.643	$9.88
197	Air Force * Overseas * E5 to E6 * Asian & Pacific Islander	0.717	$9.05
198	Air Force * Overseas * E5 to E6 * Other	0.643	$9.88
199	Air Force * Overseas * E7 to E9 * non-Hispanic White	0.597	$10.49
200	Air Force * Overseas * E7 to E9 * non-Hispanic Black	0.618	$10.20
201	Air Force * Overseas * E7 to E9 * Hispanic	0.635	$9.98
202	Air Force * Overseas * E7 to E9 * Native American	0.635	$9.98
203	Air Force * Overseas * E7 to E9 * Asian & Pacific Islander	0.625	$10.11
204	Air Force * Overseas * E7 to E9 * Other	0.635	$9.98

Table B-3. (continued)

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
205	Air Force * Overseas * W1 to O6 * non-Hispanic White	0.637	$9.95
206	Air Force * Overseas * W1 to O6 * non-Hispanic Black	0.617	$10.22
207	Air Force * Overseas * W1 to O6 * Hispanic	0.653	$9.76
208	Air Force * Overseas * W1 to O6 * Native American	0.639	$9.93
209	Air Force * Overseas * W1 to O6 * Asian & Pacific Islander	0.708	$9.15
210	Air Force * Overseas * W1 to O6 * Other	0.639	$9.93
211	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic White	0.562	$11.03
212	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic Black	0.601	$10.44
213	Coast Guard * US + Overseas * E1 to E3 * Hispanic	0.465	$12.96
214	Coast Guard * US + Overseas * E1 to E3 * Native American + Other	0.405	$14.61
215	Coast Guard * US + Overseas * E1 to E3 * Asian & Pacific Islander	0.586	$10.66
216	Coast Guard * US + Overseas * E4 * non-Hispanic White	0.533	$11.53
217	Coast Guard * US + Overseas * E4 * non-Hispanic Black	0.590	$10.60
218	Coast Guard * US + Overseas * E4 * Hispanic	0.469	$12.86
219	Coast Guard * US + Overseas * E4 * Native American + Other	0.356	$16.39
220	Coast Guard * US + Overseas * E4 * Asian & Pacific Islander	0.571	$10.89
221	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic White	0.651	$9.78
222	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic Black	0.689	$9.34
223	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Hispanic	0.616	$10.23
224	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Native American + Other	0.497	$12.24
225	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Asian & Pacific Islander	0.647	$9.83
226	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic White	0.649	$9.80
227	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic Black	0.662	$9.65
228	Coast Guard * US + Overseas * W1 to O6 * Hispanic	0.630	$10.04
229	Coast Guard * US + Overseas * W1 to O6 * Native American + Other	0.556	$11.13
230	Coast Guard * US + Overseas * W1 to O6 * Asian & Pacific Islander	0.714	$9.08
231	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic White	0.618	$10.20
232	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic Black	0.614	$10.26
233	AGR/TARS * US + Overseas * E1 to E3 + E4 * Hispanic	0.653	$9.76
234	AGR/TARS * US + Overseas * E1 to E3 + E4 * Native American	0.419	$14.18
235	AGR/TARS * US + Overseas * E1 to E3 + E4 * Asian & Pacific Islander	0.630	$10.04
236	AGR/TARS * US + Overseas * E1 to E3 + E4 * Other	0.419	$14.18
237	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic White	0.700	$9.23
238	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic Black	0.695	$9.28
239	AGR/TARS * US + Overseas * E5 to E6 * Hispanic	0.735	$8.88
240	AGR/TARS * US + Overseas * E5 to E6 * Native American	0.501	$12.15
241	AGR/TARS * US + Overseas * E5 to E6 * Asian & Pacific Islander	0.711	$9.11
242	AGR/TARS * US + Overseas * E5 to E6 * Other	0.501	$12.15
243	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic White	0.751	$8.73
244	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic Black	0.747	$8.77
245	AGR/TARS * US + Overseas * E7 to E9 * Hispanic	0.787	$8.42
246	AGR/TARS * US + Overseas * E7 to E9 * Native American	0.553	$11.18

Table B-3. (continued)

Stratum Numbers	Stratum Label	Response Rates	Cost Coefficients
247	AGR/TARS * US + Overseas * E7 to E9 * Asian & Pacific Islander	0.763	$8.62
248	AGR/TARS * US + Overseas * E7 to E9 * Other	0.553	$11.18
249	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic White	0.755	$8.70
250	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic Black	0.751	$8.73
251	AGR/TARS * US + Overseas * W1 to O6 * Hispanic	0.790	$8.40
252	AGR/TARS * US + Overseas * W1 to O6 * Native American	0.556	$11.13
253	AGR/TARS * US + Overseas * W1 to O6 * Asian & Pacific Islander	0.767	$8.59
254	AGR/TARS * US + Overseas * W1 to O6 * Other	0.556	$11.13
255	Unknown	0.580	$10.75

Table B-4.
Allocation Solutions

Stratum Number	Stratum Label	Allocation Solution
1	Army * US * E1 to E3 * non-Hispanic White	184.8
2	Army * US * E1 to E3 * non-Hispanic Black	322.1
3	Army * US * E1 to E3 * Hispanic	263.1
4	Army * US * E1 to E3 * Native American	189.1
5	Army * US * E1 to E3 * Asian & Pacific Islander	192.7
6	Army * US * E1 to E3 * Other	109.3
7	Army * US * E4 * non-Hispanic White	241.0
8	Army * US * E4 * non-Hispanic Black	392.0
9	Army * US * E4 * Hispanic	217.4
10	Army * US * E4 * Native American	160.1
11	Army * US * E4 * Asian & Pacific Islander	202.0
12	Army * US * E4 * Other	175.6
13	Army * US * E5 to E6 * non-Hispanic White	164.7
14	Army * US * E5 to E6 * non-Hispanic Black	658.6
15	Army * US * E5 to E6 * Hispanic	196.9
16	Army * US * E5 to E6 * Native American	175.6
17	Army * US * E5 to E6 * Asian & Pacific Islander	168.9
18	Army * US * E5 to E6 * Other	284.3
19	Army * US * E7 to E9 * non-Hispanic White	199.8
20	Army * US * E7 to E9 * non-Hispanic Black	328.4
21	Army * US * E7 to E9 * Hispanic	148.9
22	Army * US * E7 to E9 * Native American	94.5
23	Army * US * E7 to E9 * Asian & Pacific Islander	82.7
24	Army * US * E7 to E9 * Other	119.0
25	Army * US * W1 to O6 * non-Hispanic White	509.4
26	Army * US * W1 to O6 * non-Hispanic Black	1171.1
27	Army * US * W1 to O6 * Hispanic	850.1
28	Army * US * W1 to O6 * Native American	273.7
29	Army * US * W1 to O6 * Asian & Pacific Islander	917.9
30	Army * US * W1 to O6 * Other	68.1
31	Army * Overseas * E1 to E3 * non-Hispanic White	92.6
32	Army * Overseas * E1 to E3 * non-Hispanic Black	101.2
33	Army * Overseas * E1 to E3 * Hispanic	133.5
34	Army * Overseas * E1 to E3 * Native American	70.0
35	Army * Overseas * E1 to E3 * Asian & Pacific Islander	130.0
36	Army * Overseas * E1 to E3 * Other	18.9
37	Army * Overseas * E4 * non-Hispanic White	134.4
38	Army * Overseas * E4 * non-Hispanic Black	177.9
39	Army * Overseas * E4 * Hispanic	156.0
40	Army * Overseas * E4 * Native American	87.0
41	Army * Overseas * E4 * Asian & Pacific Islander	196.0
42	Army * Overseas * E4 * Other	48.5
43	Army * Overseas * E5 to E6 * non-Hispanic White	127.0
44	Army * Overseas * E5 to E6 * non-Hispanic Black	305.9
45	Army * Overseas * E5 to E6 * Hispanic	181.5
46	Army * Overseas * E5 to E6 * Native American	96.4
47	Army * Overseas * E5 to E6 * Asian & Pacific Islander	188.1
48	Army * Overseas * E5 to E6 * Other	84.0
49	Army * Overseas * E7 to E9 * non-Hispanic White	57.0
50	Army * Overseas * E7 to E9 * non-Hispanic Black	120.4
51	Army * Overseas * E7 to E9 * Hispanic	87.3

Table B-4. (continued)

Stratum Number	Stratum Label	Allocation Solution
52	Army * Overseas * E7 to E9 * Native American	39.2
53	Army * Overseas * E7 to E9 * Asian & Pacific Islander	73.2
54	Army * Overseas * E7 to E9 * Other	32.2
55	Army * Overseas * W1 to O6 * non-Hispanic White	145.8
56	Army * Overseas * W1 to O6 * non-Hispanic Black	242.6
57	Army * Overseas * W1 to O6 * Hispanic	235.4
58	Army * Overseas * W1 to O6 * Native American	85.5
59	Army * Overseas * W1 to O6 * Asian & Pacific Islander	248.6
60	Army * Overseas * W1 to O6 * Other	15.5
61	Navy * US * E1 to E3 * non-Hispanic White	247.0
62	Navy * US * E1 to E3 * non-Hispanic Black	340.4
63	Navy * US * E1 to E3 * Hispanic	519.7
64	Navy * US * E1 to E3 * Native American	336.0
65	Navy * US * E1 to E3 * Asian & Pacific Islander	363.5
66	Navy * US * E1 to E3 * Other	13.1
67	Navy * US * E4 * non-Hispanic White	190.6
68	Navy * US * E4 * non-Hispanic Black	245.9
69	Navy * US * E4 * Hispanic	240.0
70	Navy * US * E4 * Native American	142.4
71	Navy * US * E4 * Asian & Pacific Islander	200.6
72	Navy * US * E4 * Other	5.6
73	Navy * US * E5 to E6 * non-Hispanic White	282.7
74	Navy * US * E5 to E6 * non-Hispanic Black	453.5
75	Navy * US * E5 to E6 * Hispanic	292.5
76	Navy * US * E5 to E6 * Native American	209.0
77	Navy * US * E5 to E6 * Asian & Pacific Islander	336.5
78	Navy * US * E5 to E6 * Other	45.0
79	Navy * US * E7 to E9 * non-Hispanic White	256.2
80	Navy * US * E7 to E9 * non-Hispanic Black	76.9
81	Navy * US * E7 to E9 * Hispanic	55.5
82	Navy * US * E7 to E9 * Native American	74.7
83	Navy * US * E7 to E9 * Asian & Pacific Islander	198.3
84	Navy * US * E7 to E9 * Other	20.3
85	Navy * US * W1 to O6 * non-Hispanic White	455.6
86	Navy * US * W1 to O6 * non-Hispanic Black	405.8
87	Navy * US * W1 to O6 * Hispanic	650.7
88	Navy * US * W1 to O6 * Native American	232.3
89	Navy * US * W1 to O6 * Asian & Pacific Islander	836.2
90	Navy * US * W1 to O6 * Other	13.7
91	Navy * Overseas * E1 to E3 * non-Hispanic White	85.3
92	Navy * Overseas * E1 to E3 * non-Hispanic Black	70.8
93	Navy * Overseas * E1 to E3 * Hispanic	172.1
94	Navy * Overseas * E1 to E3 * Native American	70.0
95	Navy * Overseas * E1 to E3 * Asian & Pacific Islander	95.6
96	Navy * Overseas * E1 to E3 * Other	2.0
97	Navy * Overseas * E4 * non-Hispanic White	70.3
98	Navy * Overseas * E4 * non-Hispanic Black	51.8
99	Navy * Overseas * E4 * Hispanic	117.9
100	Navy * Overseas * E4 * Native American	50.0
101	Navy * Overseas * E4 * Asian & Pacific Islander	90.5
102	Navy * Overseas * E4 * Other	2.0
103	Navy * Overseas * E5 to E6 * non-Hispanic White	128.6

Table B-4. (continued)

Stratum Number	Stratum Label	Allocation Solution
104	Navy * Overseas * E5 to E6 * non-Hispanic Black	117.9
105	Navy * Overseas * E5 to E6 * Hispanic	177.8
106	Navy * Overseas * E5 to E6 * Native American	73.2
107	Navy * Overseas * E5 to E6 * Asian & Pacific Islander	265.8
108	Navy * Overseas * E5 to E6 * Other	10.0
109	Navy * Overseas * E7 to E9 * non-Hispanic White	46.8
110	Navy * Overseas * E7 to E9 * non-Hispanic Black	17.8
111	Navy * Overseas * E7 to E9 * Hispanic	23.6
112	Navy * Overseas * E7 to E9 * Native American	12.6
113	Navy * Overseas * E7 to E9 * Asian & Pacific Islander	106.9
114	Navy * Overseas * E7 to E9 * Other	4.4
115	Navy * Overseas * W1 to O6 * non-Hispanic White	109.5
116	Navy * Overseas * W1 to O6 * non-Hispanic Black	77.3
117	Navy * Overseas * W1 to O6 * Hispanic	136.8
118	Navy * Overseas * W1 to O6 * Native American	55.7
119	Navy * Overseas * W1 to O6 * Asian & Pacific Islander	209.9
120	Navy * Overseas * W1 to O6 * Other	3.9
121	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic White	462.4
122	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic Black	365.0
123	Marine Corps * US + Overseas * E1 to E3 * Hispanic	713.1
124	Marine Corps * US + Overseas * E1 to E3 * Native American	567.5
125	Marine Corps * US + Overseas * E1 to E3 * Asian & Pacific Islander	445.9
126	Marine Corps * US + Overseas * E1 to E3 * Other	58.8
127	Marine Corps * US + Overseas * E4 * non-Hispanic White	211.7
128	Marine Corps * US + Overseas * E4 * non-Hispanic Black	141.4
129	Marine Corps * US + Overseas * E4 * Hispanic	267.9
130	Marine Corps * US + Overseas * E4 * Native American	171.5
131	Marine Corps * US + Overseas * E4 * Asian & Pacific Islander	183.6
132	Marine Corps * US + Overseas * E4 * Other	24.8
133	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic White	264.6
134	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic Black	339.8
135	Marine Corps * US + Overseas * E5 to E6 * Hispanic	276.0
136	Marine Corps * US + Overseas * E5 to E6 * Native American	168.6
137	Marine Corps * US + Overseas * E5 to E6 * Asian & Pacific Islander	221.2
138	Marine Corps * US + Overseas * E5 to E6 * Other	43.6
139	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic White	125.8
140	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic Black	146.5
141	Marine Corps * US + Overseas * E7 to E9 * Hispanic	110.0
142	Marine Corps * US + Overseas * E7 to E9 * Native American	55.7
143	Marine Corps * US + Overseas * E7 to E9 * Asian & Pacific Islander	76.2
144	Marine Corps * US + Overseas * E7 to E9 * Other	15.4
145	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic White	384.2
146	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic Black	384.5
147	Marine Corps * US + Overseas * W1 to O6 * Hispanic	384.7
148	Marine Corps * US + Overseas * W1 to O6 * Native American	130.1
149	Marine Corps * US + Overseas * W1 to O6 * Asian & Pacific Islander	229.4
150	Marine Corps * US + Overseas * W1 to O6 * Other	44.9
151	Air Force * US * E1 to E3 * non-Hispanic White	254.8
152	Air Force * US * E1 to E3 * non-Hispanic Black	177.3
153	Air Force * US * E1 to E3 * Hispanic	228.4
154	Air Force * US * E1 to E3 * Native American	131.2
155	Air Force * US * E1 to E3 * Asian & Pacific Islander	199.8

Table B-4. (continued)

Stratum Number	Stratum Label	Allocation Solution
156	Air Force * US * E1 to E3 * Other	58.3
157	Air Force * US * E4 * non-Hispanic White	303.4
158	Air Force * US * E4 * non-Hispanic Black	169.6
159	Air Force * US * E4 * Hispanic	147.2
160	Air Force * US * E4 * Native American	96.7
161	Air Force * US * E4 * Asian & Pacific Islander	130.8
162	Air Force * US * E4 * Other	34.2
163	Air Force * US * E5 to E6 * non-Hispanic White	292.0
164	Air Force * US * E5 to E6 * non-Hispanic Black	347.6
165	Air Force * US * E5 to E6 * Hispanic	187.5
166	Air Force * US * E5 to E6 * Native American	211.6
167	Air Force * US * E5 to E6 * Asian & Pacific Islander	149.4
168	Air Force * US * E5 to E6 * Other	59.9
169	Air Force * US * E7 to E9 * non-Hispanic White	255.9
170	Air Force * US * E7 to E9 * non-Hispanic Black	144.0
171	Air Force * US * E7 to E9 * Hispanic	87.6
172	Air Force * US * E7 to E9 * Native American	186.8
173	Air Force * US * E7 to E9 * Asian & Pacific Islander	62.5
174	Air Force * US * E7 to E9 * Other	19.6
175	Air Force * US * W1 to O6 * non-Hispanic White	645.9
176	Air Force * US * W1 to O6 * non-Hispanic Black	685.6
177	Air Force * US * W1 to O6 * Hispanic	671.4
178	Air Force * US * W1 to O6 * Native American	337.2
179	Air Force * US * W1 to O6 * Asian & Pacific Islander	773.0
180	Air Force * US * W1 to O6 * Other	90.0
181	Air Force * Overseas * E1 to E3 * non-Hispanic White	71.2
182	Air Force * Overseas * E1 to E3 * non-Hispanic Black	39.5
183	Air Force * Overseas * E1 to E3 * Hispanic	65.5
184	Air Force * Overseas * E1 to E3 * Native American	42.3
185	Air Force * Overseas * E1 to E3 * Asian & Pacific Islander	53.8
186	Air Force * Overseas * E1 to E3 * Other	5.5
187	Air Force * Overseas * E4 * non-Hispanic White	152.9
188	Air Force * Overseas * E4 * non-Hispanic Black	88.3
189	Air Force * Overseas * E4 * Hispanic	89.3
190	Air Force * Overseas * E4 * Native American	46.7
191	Air Force * Overseas * E4 * Asian & Pacific Islander	93.9
192	Air Force * Overseas * E4 * Other	10.4
193	Air Force * Overseas * E5 to E6 * non-Hispanic White	181.3
194	Air Force * Overseas * E5 to E6 * non-Hispanic Black	179.8
195	Air Force * Overseas * E5 to E6 * Hispanic	134.6
196	Air Force * Overseas * E5 to E6 * Native American	103.5
197	Air Force * Overseas * E5 to E6 * Asian & Pacific Islander	161.6
198	Air Force * Overseas * E5 to E6 * Other	21.6
199	Air Force * Overseas * E7 to E9 * non-Hispanic White	72.1
200	Air Force * Overseas * E7 to E9 * non-Hispanic Black	55.1
201	Air Force * Overseas * E7 to E9 * Hispanic	44.0
202	Air Force * Overseas * E7 to E9 * Native American	60.1
203	Air Force * Overseas * E7 to E9 * Asian & Pacific Islander	52.2
204	Air Force * Overseas * E7 to E9 * Other	5.7
205	Air Force * Overseas * W1 to O6 * non-Hispanic White	105.3
206	Air Force * Overseas * W1 to O6 * non-Hispanic Black	96.3
207	Air Force * Overseas * W1 to O6 * Hispanic	119.2

Table B-4. (continued)

Stratum Number	Stratum Label	Allocation Solution
208	Air Force * Overseas * W1 to O6 * Native American	34.3
209	Air Force * Overseas * W1 to O6 * Asian & Pacific Islander	133.3
210	Air Force * Overseas * W1 to O6 * Other	12.2
211	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic White	189.5
212	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic Black	187.7
213	Coast Guard * US + Overseas * E1 to E3 * Hispanic	216.8
214	Coast Guard * US + Overseas * E1 to E3 * Native American + Other	87.3
215	Coast Guard * US + Overseas * E1 to E3 * Asian & Pacific Islander	149.6
216	Coast Guard * US + Overseas * E4 * non-Hispanic White	194.7
217	Coast Guard * US + Overseas * E4 * non-Hispanic Black	197.4
218	Coast Guard * US + Overseas * E4 * Hispanic	168.0
219	Coast Guard * US + Overseas * E4 * Native American + Other	93.8
220	Coast Guard * US + Overseas * E4 * Asian & Pacific Islander	103.5
221	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic White	384.2
222	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic Black	384.5
223	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Hispanic	384.7
224	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Native American + Other	170.3
225	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Asian & Pacific Islander	224.1
226	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic White	150.1
227	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic Black	150.8
228	Coast Guard * US + Overseas * W1 to O6 * Hispanic	150.8
229	Coast Guard * US + Overseas * W1 to O6 * Native American + Other	16.3
230	Coast Guard * US + Overseas * W1 to O6 * Asian & Pacific Islander	142.5
231	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic White	31.6
232	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic Black	27.7
233	AGR/TARS * US + Overseas * E1 to E3 + E4 * Hispanic	36.2
234	AGR/TARS * US + Overseas * E1 to E3 + E4 * Native American	12.6
235	AGR/TARS * US + Overseas * E1 to E3 + E4 * Asian & Pacific Islander	24.7
236	AGR/TARS * US + Overseas * E1 to E3 + E4 * Other	2.0
237	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic White	247.3
238	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic Black	203.4
239	AGR/TARS * US + Overseas * E5 to E6 * Hispanic	168.6
240	AGR/TARS * US + Overseas * E5 to E6 * Native American	102.1
241	AGR/TARS * US + Overseas * E5 to E6 * Asian & Pacific Islander	158.1
242	AGR/TARS * US + Overseas * E5 to E6 * Other	14.4
243	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic White	254.1
244	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic Black	94.1
245	AGR/TARS * US + Overseas * E7 to E9 * Hispanic	106.6
246	AGR/TARS * US + Overseas * E7 to E9 * Native American	100.1
247	AGR/TARS * US + Overseas * E7 to E9 * Asian & Pacific Islander	95.6
248	AGR/TARS * US + Overseas * E7 to E9 * Other	9.2
249	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic White	171.3
250	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic Black	154.6
251	AGR/TARS * US + Overseas * W1 to O6 * Hispanic	223.2
252	AGR/TARS * US + Overseas * W1 to O6 * Native American	86.0
253	AGR/TARS * US + Overseas * W1 to O6 * Asian & Pacific Islander	191.3
254	AGR/TARS * US + Overseas * W1 to O6 * Other	2.8
255	Unknown	2.0

Table B-5.
Design Evaluation for Equal Opportunity Survey

Domain Number	Domain Label	Prevalence	Lagrange Ratio[8]	Expected Precision[9]	Design Effect[10]
1	All Domains	0.5	0	0.009	3.70
2	Army	0.5	0	0.017	3.68
3	Navy	0.5	0	0.019	3.69
4	Marine Corps	0.5	24	0.020	2.92
5	Air Force	0.5	0	0.018	3.09
6	Coast Guard	0.5	0	0.028	2.96
7	AGR/TARS	0.5	43	0.031	2.36
8	US	0.5	0	0.010	3.78
9	Overseas	0.5	0	0.017	3.13
10	E1 to E3	0.5	0	0.020	3.54
11	E4	0.5	16	0.020	2.84
12	E5 to E6	0.5	0	0.018	3.55
13	E7 to E9	0.5	38	0.020	2.01
14	W1 to O6	0.5	0	0.017	4.36
15	non-Hispanic White	0.5	0	0.012	1.40
16	non-Hispanic Black	0.5	65	0.012	1.57
17	Hispanic	0.5	0	0.013	1.68
18	Native American	0.5	0	0.015	1.21
19	Asian & Pacific Islander	0.5	0	0.014	1.92
20	Other	0.5	98	0.026	1.05
21	Army * non-Hispanic White	0.5	0	0.026	1.27
22	Army * non-Hispanic Black	0.5	0	0.019	1.42
23	Army * Hispanic	0.5	0	0.026	1.70
24	Army * Asian & Pacific Islander	0.5	0	0.027	1.69
25	Navy * non-Hispanic White	0.5	0	0.026	1.30
26	Navy * non-Hispanic Black	0.5	0	0.026	1.28
27	Navy * Hispanic	0.5	0	0.025	1.53
28	Navy * Asian & Pacific Islander	0.5	0	0.025	1.64
29	Marine Corps * non-Hispanic White	0.5	0	0.028	1.12
30	Marine Corps * non-Hispanic Black	0.5	54	0.031	1.29
31	Marine Corps * Hispanic	0.5	0	0.026	1.19
32	Marine Corps * Asian & Pacific Islander	0.5	85	0.031	1.08
33	Air Force * non-Hispanic White	0.5	0	0.023	1.19
34	Air Force * non-Hispanic Black	0.5	0	0.027	1.49
35	Air Force * Hispanic	0.5	6	0.031	1.66
36	Air Force * Asian & Pacific Islander	0.5	0	0.030	1.65
37	Coast Guard * non-Hispanic White	0.5	0	0.034	1.04
38	Coast Guard * non-Hispanic Black	0.5	0	0.034	1.08
39	Coast Guard * Hispanic	0.5	0	0.034	1.07

[8] The precision constraints that determine the allocation solutions are identified by those final Lagrange multipliers that are most closely equal in value to the initial values described in the Sample Design section of this report, giving ratios close to one. Values in this column are the percentages that the final values are of the initial values. Constraints that are satisfied coincidentally to others have final Lagrange multiplier values of zero.

[9] The expected precision is calculated using the allocation solutions reported in Table B-4 and is the half width of a 95% confidence interval.

[10] Design effects are the ratios of the actual variances to those that would be obtained using a simple random sampling design with the same number of observations.

Table B-5. (continued)

Domain Number	Domain Label	Prevalence	Lagrange Ratio	Expected Precision	Design Effect
40	Coast Guard * Asian & Pacific Islander	0.5	55	0.041	1.03
41	AGR/TARS * non-Hispanic White	0.5	0	0.038	1.02
42	AGR/TARS * non-Hispanic Black	0.5	62	0.051	1.25
43	AGR/TARS * Hispanic	0.5	52	0.051	1.39
44	AGR/TARS * Asian & Pacific Islander	0.5	63	0.051	1.22
45	Male * non-Hispanic White	0.5	0	0.014	1.56
46	Male * non-Hispanic Black	0.5	0	0.015	1.89
47	Male * Hispanic	0.5	0	0.015	1.88
48	Male * Asian & Pacific Islander	0.5	0	0.016	2.11
49	Female * non-Hispanic White	0.5	42	0.051	2.52
50	Female * non-Hispanic Black	0.5	0	0.036	2.79
51	Female * Hispanic	0.5	51	0.051	3.14
52	Female * Asian & Pacific Islander	0.5	47	0.051	3.44
53	Army * E1 to E4 * non-Hispanic White	0.5	0	0.041	1.10
54	Army * E1 to E4 * non-Hispanic Black	0.5	0	0.032	1.02
55	Army * E1 to E4 * Hispanic	0.5	0	0.038	1.13
56	Army * E1 to E4 * Asian & Pacific Islander + Native American + Other	0.5	0	0.031	1.49
57	Army * E5 to E9 * non-Hispanic White	0.5	0	0.049	1.33
58	Army * E5 to E9 * non-Hispanic Black	0.5	0	0.027	1.02
59	Army * E5 to E9 * Hispanic	0.5	0	0.044	1.19
60	Army * E5 to E9 * Asian & Pacific Islander + Native American + Other	0.5	0	0.031	1.42
61	Army * W1 to O6 * non-Hispanic White	0.5	0	0.039	1.01
62	Army * W1 to O6 * non-Hispanic Black	0.5	0	0.027	1.00
63	Army * W1 to O6 * Hispanic	0.5	0	0.030	1.00
64	Army * W1 to O6 * Asian & Pacific Islander + Native American + Other	0.5	0	0.041	2.74
65	Navy * E1 to E4 * non-Hispanic White	0.5	0	0.043	1.11
66	Navy * E1 to E4 * non-Hispanic Black	0.5	0	0.038	1.03
67	Navy * E1 to E4 * Hispanic	0.5	0	0.033	1.13
68	Navy * E1 to E4 * Asian & Pacific Islander + Native American + Other	0.5	0	0.032	1.43
69	Navy * E5 to E9 * non-Hispanic White	0.5	0	0.043	1.34
70	Navy * E5 to E9 * non-Hispanic Black	0.5	0	0.039	1.03
71	Navy * E5 to E9 * Hispanic	0.5	0	0.047	1.21
72	Navy * E5 to E9 * Asian & Pacific Islander + Native American + Other	0.5	0	0.033	1.47
73	Navy * W1 to O6 * non-Hispanic White	0.5	0	0.042	1.01
74	Navy * W1 to O6 * non-Hispanic Black	0.5	0	0.046	1.00
75	Navy * W1 to O6 * Hispanic	0.5	0	0.036	1.00
76	Navy * W1 to O6 * Asian & Pacific Islander + Native American + Other	0.5	0	0.035	1.65
77	Marine Corps * E1 to E4 * non-Hispanic White	0.5	0	0.039	1.00
78	Marine Corps * E1 to E4 * non-Hispanic Black	0.5	0	0.044	1.00
79	Marine Corps * E1 to E4 * Hispanic	0.5	0	0.032	1.00
80	Marine Corps * E1 to E4 * Asian & Pacific Islander + Native American + Other	0.5	0	0.038	2.10

Table B-5. (continued)

Domain Number	Domain Label	Prevalence	Lagrange Ratio	Expected Precision	Design Effect
81	Marine Corps * E5 to E9 * non-Hispanic White	0.5	27	0.051	1.02
82	Marine Corps * E5 to E9 * non-Hispanic Black	0.5	0	0.045	1.00
83	Marine Corps * E5 to E9 * Hispanic	0.5	13	0.051	1.00
84	Marine Corps * E5 to E9 * Asian & Pacific Islander + Native American + Other	0.5	16	0.051	1.51
85	Marine Corps * W1 to O6 * non-Hispanic White	0.5	71	0.051	1.00
86	Marine Corps * W1 to O6 * non-Hispanic Black	0.5	86	0.051	1.00
87	Marine Corps * W1 to O6 * Hispanic	0.5	66	0.051	1.00
88	Marine Corps * W1 to O6 * Asian & Pacific Islander + Native American + Other	0.5	50	0.051	1.05
89	Air Force * E1 to E4 * non-Hispanic White	0.5	0	0.037	1.08
90	Air Force * E1 to E4 * non-Hispanic Black	0.5	0	0.047	1.04
91	Air Force * E1 to E4 * Hispanic	0.5	0	0.045	1.09
92	Air Force * E1 to E4 * Asian & Pacific Islander + Native American + Other	0.5	0	0.040	1.44
93	Air Force * E5 to E9 * non-Hispanic White	0.5	0	0.039	1.24
94	Air Force * E5 to E9 * non-Hispanic Black	0.5	0	0.038	1.04
95	Air Force * E5 to E9 * Hispanic	0.5	0	0.051	1.16
96	Air Force * E5 to E9 * Asian & Pacific Islander + Native American + Other	0.5	0	0.040	1.71
97	Air Force * W1 to O6 * non-Hispanic White	0.5	0	0.037	1.01
98	Air Force * W1 to O6 * non-Hispanic Black	0.5	0	0.036	1.00
99	Air Force * W1 to O6 * Hispanic	0.5	0	0.036	1.00
100	Air Force * W1 to O6 * Asian & Pacific Islander + Native American + Other	0.5	0	0.048	3.21
101	Coast Guard * E1 to E4 * non-Hispanic White	0.5	98	0.051	1.00
102	Coast Guard * E1 to E4 * non-Hispanic Black	0.5	100	0.051	1.00
103	Coast Guard * E1 to E4 * Hispanic	0.5	99	0.051	1.00
104	Coast Guard * E1 to E4 * Asian & Pacific Islander + Native American + Other	0.5	68	0.051	1.13
105	Coast Guard * E5 to E9 * non-Hispanic White	0.5	95	0.051	1.00
106	Coast Guard * E5 to E9 * non-Hispanic Black	0.5	100	0.051	1.00
107	Coast Guard * E5 to E9 * Hispanic	0.5	99	0.051	1.00
108	Coast Guard * E5 to E9 * Asian & Pacific Islander + Native American + Other	0.5	82	0.051	1.03
109	Coast Guard * W1 to O6 * non-Hispanic White	0.5	82	0.082	1.00
110	Coast Guard * W1 to O6 * non-Hispanic Black	0.5	97	0.082	1.00
111	Coast Guard * W1 to O6 * Hispanic	0.5	82	0.082	1.00
112	Coast Guard * W1 to O6 * Asian & Pacific Islander + Native American + Other	0.5	4	0.082	1.06
113	E1 to E3 * non-Hispanic White	0.5	0	0.028	1.28
114	E1 to E3 * non-Hispanic Black	0.5	0	0.028	1.22

Table B-5. (continued)

Domain Number	Domain Label	Prevalence	Lagrange Ratio	Expected Precision	Design Effect
115	E1 to E3 * Hispanic	0.5	0	0.023	1.20
116	E4 * non-Hispanic White	0.5	0	0.028	1.23
117	E4 * non-Hispanic Black	0.5	0	0.028	1.20
118	E4 * Hispanic	0.5	0	0.030	1.26
119	E5 to E6 * non-Hispanic White	0.5	0	0.027	1.46
120	E5 to E6 * non-Hispanic Black	0.5	0	0.020	1.18
121	E5 to E6 * Hispanic	0.5	0	0.027	1.42
122	E5 to E6 * Asian & Pacific Islander + Native American + Other	0.5	0	0.022	1.80
123	E7 to E9 * non-Hispanic White	0.5	0	0.028	1.08
124	E7 to E9 * non-Hispanic Black	0.5	0	0.033	1.14
125	E7 to E9 * Hispanic	0.5	34	0.041	1.20
126	W1 to O3 * non-Hispanic White	0.5	0	0.030	1.49
127	W1 to O3 * non-Hispanic Black	0.5	0	0.025	1.42
128	W1 to O3 * Hispanic	0.5	0	0.023	1.31
129	O4 to O6 * non-Hispanic White	0.5	66	0.041	1.72
130	O4 to O6 * non-Hispanic Black	0.5	91	0.041	1.74
131	O4 to O6 * Hispanic	0.5	89	0.041	1.71
132	E1 to E3 * Native American	0.5	0	0.028	1.14
133	E1 to E3 * Asian & Pacific Islander	0.5	0	0.028	1.33
134	E4 * Native American	0.5	0	0.036	1.12
135	E4 * Asian & Pacific Islander	0.5	0	0.033	1.36
136	E5 to E6 * Native American	0.5	0	0.029	1.12
137	E5 to E6 * Asian & Pacific Islander	0.5	0	0.030	1.59
138	E7 to E9 * Native American	0.5	24	0.041	1.06
139	E7 to E9 * Other	0.5	0	0.067	1.02
140	W1 to O3 * Native American	0.5	0	0.041	1.38
141	W1 to O3 * Asian & Pacific Islander	0.5	0	0.022	1.29
142	O4 to O6 * Native American	0.5	81	0.061	1.67
143	O4 to O6 * Asian & Pacific Islander	0.5	90	0.041	1.73
144	Male * Native American	0.5	0	0.018	1.43
145	Female * Native American	0.5	0	0.049	2.11
146	Army * Native American	0.5	65	0.031	1.19
147	Navy * Native American	0.5	76	0.031	1.18
148	Marine Corps * Native American	0.5	68	0.031	1.02
149	Air Force * Native American	0.5	63	0.031	1.17
150	Air Force * Other	0.5	0	0.056	1.00
151	Coast Guard * Native American	0.5	0	0.056	1.14
152	AGR/TARS * Native American	0.5	75	0.061	1.13
153	US * non-Hispanic White	0.5	0	0.014	1.43
154	US * non-Hispanic Black	0.5	0	0.014	1.65
155	US * Hispanic	0.5	0	0.015	1.73
156	US * Asian & Pacific Islander	0.5	0	0.017	2.00
157	Overseas * non-Hispanic White	0.5	0	0.025	1.19
158	Overseas * non-Hispanic Black	0.5	0	0.025	1.32
158	Overseas * Hispanic	0.5	0	0.025	1.54
160	Overseas * Asian & Pacific Islander	0.5	0	0.023	1.32
161	US * Native American	0.5	0	0.017	1.23
162	US * Asian & Pacific Islander	0.5	0	0.017	2.00
163	Europe * non-Hispanic White	0.5	0	0.043	1.50
164	Europe * non-Hispanic Black	0.5	0	0.043	1.68

Table B-5. (continued)

Domain Number	Domain Label	Prevalence	Lagrange Ratio	Expected Precision	Design Effect
165	Europe * Hispanic	0.5	0	0.045	1.72
166	Europe * Native American	0.5	0	0.060	1.57
167	Europe * Asian & Pacific Islander	0.5	66	0.051	1.85
168	Asia & Pacific Islands * non-Hispanic White	0.5	55	0.051	1.81
169	Asia & Pacific Islands * non-Hispanic Black	0.5	43	0.051	2.06
170	Asia & Pacific Islands * Hispanic	0.5	75	0.051	2.09
171	Asia & Pacific Islands * Native American	0.5	44	0.061	1.82
172	Asia & Pacific Islands * Asian & Pacific Islander	0.5	0	0.037	1.76

Table B-6.
Sample Sizes

Stratum Number	Stratum Label	Stratum Size	Sample Size
1	Army * US * E1 to E3 * non-Hispanic White	53,676	511
2	Army * US * E1 to E3 * non-Hispanic Black	19,657	751
3	Army * US * E1 to E3 * Hispanic	6,193	547
4	Army * US * E1 to E3 * Native American	668	433
5	Army * US * E1 to E3 * Asian & Pacific Islander	2,077	324
6	Army * US * E1 to E3 * Other	1,813	251
7	Army * US * E4 * non-Hispanic White	56,847	683
8	Army * US * E4 * non-Hispanic Black	23,380	899
9	Army * US * E4 * Hispanic	4,828	439
10	Army * US * E4 * Native American	591	406
11	Army * US * E4 * Asian & Pacific Islander	2,112	342
12	Army * US * E4 * Other	3,041	443
13	Army * US * E5 to E6 * non-Hispanic White	54,387	352
14	Army * US * E5 to E6 * non-Hispanic Black	36,511	1,225
15	Army * US * E5 to E6 * Hispanic	5,157	308
16	Army * US * E5 to E6 * Native American	575	336
17	Army * US * E5 to E6 * Asian & Pacific Islander	1,982	252
18	Army * US * E5 to E6 * Other	4,374	544
19	Army * US * E7 to E9 * non-Hispanic White	21,715	347
20	Army * US * E7 to E9 * non-Hispanic Black	15,221	502
21	Army * US * E7 to E9 * Hispanic	2,819	222
22	Army * US * E7 to E9 * Native American	221	152
23	Army * US * E7 to E9 * Asian & Pacific Islander	883	121
24	Army * US * E7 to E9 * Other	1,688	192
25	Army * US * W1 to O6 * non-Hispanic White	52,388	893
26	Army * US * W1 to O6 * non-Hispanic Black	7,493	1,924
27	Army * US * W1 to O6 * Hispanic	2,055	1,323
28	Army * US * W1 to O6 * Native American	305	305
29	Army * US * W1 to O6 * Asian & Pacific Islander	1,568	1,270
30	Army * US * W1 to O6 * Other	1,002	119
31	Army * Overseas * E1 to E3 * non-Hispanic White	10,765	284
32	Army * Overseas * E1 to E3 * non-Hispanic Black	4,096	287
33	Army * Overseas * E1 to E3 * Hispanic	1,139	296
34	Army * Overseas * E1 to E3 * Native American	126	126
35	Army * Overseas * E1 to E3 * Asian & Pacific Islander	466	225
36	Army * Overseas * E1 to E3 * Other	339	52
37	Army * Overseas * E4 * non-Hispanic White	18,418	496
38	Army * Overseas * E4 * non-Hispanic Black	8,214	565
39	Army * Overseas * E4 * Hispanic	1,640	374
40	Army * Overseas * E4 * Native American	205	205
41	Army * Overseas * E4 * Asian & Pacific Islander	738	372
42	Army * Overseas * E4 * Other	985	176
43	Army * Overseas * E5 to E6 * non-Hispanic White	15,878	341
44	Army * Overseas * E5 to E6 * non-Hispanic Black	12,344	759
45	Army * Overseas * E5 to E6 * Hispanic	1,705	332
46	Army * Overseas * E5 to E6 * Native American	180	180
47	Army * Overseas * E5 to E6 * Asian & Pacific Islander	697	320
48	Army * Overseas * E5 to E6 * Other	1,465	217
49	Army * Overseas * E7 to E9 * non-Hispanic White	4,816	130
50	Army * Overseas * E7 to E9 * non-Hispanic Black	4,211	249
51	Army * Overseas * E7 to E9 * Hispanic	759	161

Table B-6. (continued)

Stratum Number	Stratum Label	Stratum Size	Sample Size
52	Army * Overseas * E7 to E9 * Native American	60	60
53	Army * Overseas * E7 to E9 * Asian & Pacific Islander	283	129
54	Army * Overseas * E7 to E9 * Other	521	72
55	Army * Overseas * W1 to O6 * non-Hispanic White	11,800	279
56	Army * Overseas * W1 to O6 * non-Hispanic Black	1,716	467
57	Army * Overseas * W1 to O6 * Hispanic	577	394
58	Army * Overseas * W1 to O6 * Native American	85	85
59	Army * Overseas * W1 to O6 * Asian & Pacific Islander	427	361
60	Army * Overseas * W1 to O6 * Other	243	32
61	Navy * US * E1 to E3 * non-Hispanic White	60,920	605
62	Navy * US * E1 to E3 * non-Hispanic Black	20,078	733
63	Navy * US * E1 to E3 * Hispanic	10,904	1,099
64	Navy * US * E1 to E3 * Native American	916	473
65	Navy * US * E1 to E3 * Asian & Pacific Islander	3,987	627
66	Navy * US * E1 to E3 * Other	177	20
67	Navy * US * E4 * non-Hispanic White	40,509	398
68	Navy * US * E4 * non-Hispanic Black	13,263	446
69	Navy * US * E4 * Hispanic	5,755	423
70	Navy * US * E4 * Native American	380	191
71	Navy * US * E4 * Asian & Pacific Islander	2,793	305
72	Navy * US * E4 * Other	74	8
73	Navy * US * E5 to E6 * non-Hispanic White	85,127	462
74	Navy * US * E5 to E6 * non-Hispanic Black	22,972	678
75	Navy * US * E5 to E6 * Hispanic	7,311	404
76	Navy * US * E5 to E6 * Native American	522	234
77	Navy * US * E5 to E6 * Asian & Pacific Islander	6,857	448
78	Navy * US * E5 to E6 * Other	559	50
79	Navy * US * E7 to E9 * non-Hispanic White	25,725	357
80	Navy * US * E7 to E9 * non-Hispanic Black	3,317	98
81	Navy * US * E7 to E9 * Hispanic	995	74
82	Navy * US * E7 to E9 * Native American	141	76
83	Navy * US * E7 to E9 * Asian & Pacific Islander	2,536	259
84	Navy * US * E7 to E9 * Other	241	21
85	Navy * US * W1 to O6 * non-Hispanic White	41,545	677
86	Navy * US * W1 to O6 * non-Hispanic Black	2,646	580
87	Navy * US * W1 to O6 * Hispanic	1,558	943
88	Navy * US * W1 to O6 * Native American	187	187
89	Navy * US * W1 to O6 * Asian & Pacific Islander	1,363	1,094
90	Navy * US * W1 to O6 * Other	169	15
91	Navy * Overseas * E1 to E3 * non-Hispanic White	7,736	189
92	Navy * Overseas * E1 to E3 * non-Hispanic Black	2,448	150
93	Navy * Overseas * E1 to E3 * Hispanic	1,290	330
94	Navy * Overseas * E1 to E3 * Native American	90	90
95	Navy * Overseas * E1 to E3 * Asian & Pacific Islander	527	149
96	Navy * Overseas * E1 to E3 * Other	18	3
97	Navy * Overseas * E4 * non-Hispanic White	6,380	147
98	Navy * Overseas * E4 * non-Hispanic Black	1,761	102
99	Navy * Overseas * E4 * Hispanic	926	206
100	Navy * Overseas * E4 * Native American	66	66
101	Navy * Overseas * E4 * Asian & Pacific Islander	614	135
102	Navy * Overseas * E4 * Other	14	3
103	Navy * Overseas * E5 to E6 * non-Hispanic White	11,558	215

Table B-6. (continued)

Stratum Number	Stratum Label	Stratum Size	Sample Size
104	Navy * Overseas * E5 to E6 * non-Hispanic Black	3,798	191
105	Navy * Overseas * E5 to E6 * Hispanic	1,368	248
106	Navy * Overseas * E5 to E6 * Native American	84	84
107	Navy * Overseas * E5 to E6 * Asian & Pacific Islander	2,006	352
108	Navy * Overseas * E5 to E6 * Other	127	13
109	Navy * Overseas * E7 to E9 * non-Hispanic White	3,120	70
110	Navy * Overseas * E7 to E9 * non-Hispanic Black	505	26
111	Navy * Overseas * E7 to E9 * Hispanic	161	34
112	Navy * Overseas * E7 to E9 * Native American	12	12
113	Navy * Overseas * E7 to E9 * Asian & Pacific Islander	581	146
114	Navy * Overseas * E7 to E9 * Other	54	6
115	Navy * Overseas * W1 to O6 * non-Hispanic White	7,590	155
116	Navy * Overseas * W1 to O6 * non-Hispanic Black	591	112
117	Navy * Overseas * W1 to O6 * Hispanic	350	188
118	Navy * Overseas * W1 to O6 * Native American	46	46
119	Navy * Overseas * W1 to O6 * Asian & Pacific Islander	341	258
120	Navy * Overseas * W1 to O6 * Other	48	4
121	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic White	51,727	1,059
122	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic Black	10,086	794
123	Marine Corps * US + Overseas * E1 to E3 * Hispanic	9,053	1,481
124	Marine Corps * US + Overseas * E1 to E3 * Native American	804	804
125	Marine Corps * US + Overseas * E1 to E3 * Asian & Pacific Islander	1,405	818
126	Marine Corps * US + Overseas * E1 to E3 * Other	874	105
127	Marine Corps * US + Overseas * E4 * non-Hispanic White	22,702	521
128	Marine Corps * US + Overseas * E4 * non-Hispanic Black	3,930	318
129	Marine Corps * US + Overseas * E4 * Hispanic	3,259	565
130	Marine Corps * US + Overseas * E4 * Native American	248	248
131	Marine Corps * US + Overseas * E4 * Asian & Pacific Islander	590	354
132	Marine Corps * US + Overseas * E4 * Other	387	50
133	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic White	23,122	483
134	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic Black	8,624	593
135	Marine Corps * US + Overseas * E5 to E6 * Hispanic	3,133	431
136	Marine Corps * US + Overseas * E5 to E6 * Native American	231	231
137	Marine Corps * US + Overseas * E5 to E6 * Asian & Pacific Islander	639	356
138	Marine Corps * US + Overseas * E5 to E6 * Other	373	68
139	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic White	8,248	197
140	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic Black	3,363	218
141	Marine Corps * US + Overseas * E7 to E9 * Hispanic	1,073	167
142	Marine Corps * US + Overseas * E7 to E9 * Native American	66	66
143	Marine Corps * US + Overseas * E7 to E9 * Asian & Pacific Islander	215	123
144	Marine Corps * US + Overseas * E7 to E9 * Other	125	22
145	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic White	15,700	611
146	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic Black	1,076	618
147	Marine Corps * US + Overseas * W1 to O6 * Hispanic	689	616
148	Marine Corps * US + Overseas * W1 to O6 * Native American	107	107
149	Marine Corps * US + Overseas * W1 to O6 * Asian & Pacific Islander	267	267
150	Marine Corps * US + Overseas * W1 to O6 * Other	72	66
151	Air Force * US * E1 to E3 * non-Hispanic White	47,790	451
152	Air Force * US * E1 to E3 * non-Hispanic Black	9,286	288
153	Air Force * US * E1 to E3 * Hispanic	3,679	366
154	Air Force * US * E1 to E3 * Native American	314	197
155	Air Force * US * E1 to E3 * Asian & Pacific Islander	1,637	284

Table B-6. (continued)

Stratum Number	Stratum Label	Stratum Size	Sample Size
156	Air Force * US * E1 to E3 * Other	809	88
157	Air Force * US * E4 * non-Hispanic White	51,083	556
158	Air Force * US * E4 * non-Hispanic Black	8,756	277
159	Air Force * US * E4 * Hispanic	2,372	235
160	Air Force * US * E4 * Native American	239	157
161	Air Force * US * E4 * Asian & Pacific Islander	1,173	190
162	Air Force * US * E4 * Other	490	57
163	Air Force * US * E5 to E6 * non-Hispanic White	69,568	446
164	Air Force * US * E5 to E6 * non-Hispanic Black	17,235	492
165	Air Force * US * E5 to E6 * Hispanic	3,666	246
166	Air Force * US * E5 to E6 * Native American	488	287
167	Air Force * US * E5 to E6 * Asian & Pacific Islander	1,671	197
168	Air Force * US * E5 to E6 * Other	801	81
169	Air Force * US * E7 to E9 * non-Hispanic White	25,370	370
170	Air Force * US * E7 to E9 * non-Hispanic Black	6,320	193
171	Air Force * US * E7 to E9 * Hispanic	1,378	121
172	Air Force * US * E7 to E9 * Native American	352	244
173	Air Force * US * E7 to E9 * Asian & Pacific Islander	621	89
174	Air Force * US * E7 to E9 * Other	256	26
175	Air Force * US * W1 to O6 * non-Hispanic White	59,345	995
176	Air Force * US * W1 to O6 * non-Hispanic Black	3,734	1,025
177	Air Force * US * W1 to O6 * Hispanic	1,312	1,018
178	Air Force * US * W1 to O6 * Native American	275	275
179	Air Force * US * W1 to O6 * Asian & Pacific Islander	1,163	1,096
180	Air Force * US * W1 to O6 * Other	1,238	132
181	Air Force * Overseas * E1 to E3 * non-Hispanic White	6,133	127
182	Air Force * Overseas * E1 to E3 * non-Hispanic Black	1,231	69
183	Air Force * Overseas * E1 to E3 * Hispanic	453	104
184	Air Force * Overseas * E1 to E3 * Native American	53	53
185	Air Force * Overseas * E1 to E3 * Asian & Pacific Islander	192	75
186	Air Force * Overseas * E1 to E3 * Other	78	9
187	Air Force * Overseas * E4 * non-Hispanic White	12,952	304
188	Air Force * Overseas * E4 * non-Hispanic Black	2,785	169
189	Air Force * Overseas * E4 * Hispanic	638	153
190	Air Force * Overseas * E4 * Native American	64	64
191	Air Force * Overseas * E4 * Asian & Pacific Islander	364	142
192	Air Force * Overseas * E4 * Other	158	20
193	Air Force * Overseas * E5 to E6 * non-Hispanic White	15,808	305
194	Air Force * Overseas * E5 to E6 * non-Hispanic Black	5,540	296
195	Air Force * Overseas * E5 to E6 * Hispanic	963	190
196	Air Force * Overseas * E5 to E6 * Native American	129	129
197	Air Force * Overseas * E5 to E6 * Asian & Pacific Islander	676	226
198	Air Force * Overseas * E5 to E6 * Other	305	34
199	Air Force * Overseas * E7 to E9 * non-Hispanic White	5,030	122
200	Air Force * Overseas * E7 to E9 * non-Hispanic Black	1,658	91
201	Air Force * Overseas * E7 to E9 * Hispanic	325	71
202	Air Force * Overseas * E7 to E9 * Native American	71	71
203	Air Force * Overseas * E7 to E9 * Asian & Pacific Islander	214	85
204	Air Force * Overseas * E7 to E9 * Other	80	9
205	Air Force * Overseas * W1 to O6 * non-Hispanic White	7,395	166
206	Air Force * Overseas * W1 to O6 * non-Hispanic Black	541	157
207	Air Force * Overseas * W1 to O6 * Hispanic	215	184

Table B-6. (continued)

Stratum Number	Stratum Label	Stratum Size	Sample Size
208	Air Force * Overseas * W1 to O6 * Native American	26	26
209	Air Force * Overseas * W1 to O6 * Asian & Pacific Islander	184	184
210	Air Force * Overseas * W1 to O6 * Other	172	20
211	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic White	4,903	338
212	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic Black	403	313
213	Coast Guard * US + Overseas * E1 to E3 * Hispanic	600	467
214	Coast Guard * US + Overseas * E1 to E3 * Native American + Other	243	217
215	Coast Guard * US + Overseas * E1 to E3 * Asian & Pacific Islander	215	215
216	Coast Guard * US + Overseas * E4 * non-Hispanic White	5,145	366
217	Coast Guard * US + Overseas * E4 * non-Hispanic Black	427	336
218	Coast Guard * US + Overseas * E4 * Hispanic	465	360
219	Coast Guard * US + Overseas * E4 * Native American + Other	285	264
220	Coast Guard * US + Overseas * E4 * Asian & Pacific Islander	151	151
221	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic White	12,381	591
222	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic Black	1,277	559
223	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Hispanic	711	625
224	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Native American + Other	226	226
225	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Asian & Pacific Islander	221	221
226	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic White	6,493	233
227	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic Black	215	215
228	Coast Guard * US + Overseas * W1 to O6 * Hispanic	206	206
229	Coast Guard * US + Overseas * W1 to O6 * Native American + Other	39	31
230	Coast Guard * US + Overseas * W1 to O6 * Asian & Pacific Islander	188	188
231	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic White	2,518	52
232	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic Black	668	46
233	AGR/TARS * US + Overseas * E1 to E3 + E4 * Hispanic	355	57
234	AGR/TARS * US + Overseas * E1 to E3 + E4 * Native American	30	30
235	AGR/TARS * US + Overseas * E1 to E3 + E4 * Asian & Pacific Islander	99	40
236	AGR/TARS * US + Overseas * E1 to E3 + E4 * Other	21	5
237	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic White	20,094	354
238	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic Black	4,686	294
239	AGR/TARS * US + Overseas * E5 to E6 * Hispanic	1,658	230
240	AGR/TARS * US + Overseas * E5 to E6 * Native American	225	206
241	AGR/TARS * US + Overseas * E5 to E6 * Asian & Pacific Islander	618	224
242	AGR/TARS * US + Overseas * E5 to E6 * Other	222	30
243	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic White	16,296	340
244	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic Black	2,061	127
245	AGR/TARS * US + Overseas * E7 to E9 * Hispanic	962	136
246	AGR/TARS * US + Overseas * E7 to E9 * Native American	187	183
247	AGR/TARS * US + Overseas * E7 to E9 * Asian & Pacific Islander	352	126
248	AGR/TARS * US + Overseas * E7 to E9 * Other	135	18
249	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic White	10,002	228
250	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic Black	732	206
251	AGR/TARS * US + Overseas * W1 to O6 * Hispanic	369	284
252	AGR/TARS * US + Overseas * W1 to O6 * Native American	69	69
253	AGR/TARS * US + Overseas * W1 to O6 * Asian & Pacific Islander	231	231
254	AGR/TARS * US + Overseas * W1 to O6 * Other	41	5
255	Unknown	9,334	463

Table B-7.
Segment Variables Included in the Model for Nonresponse Adjustment for the Army, and Response Rate in Each Segment

Segment number	Description	Response Rate
1A	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: Low (Enlisted, 3.0%-6.3%) Region: United States	37.1
1B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: Low (Enlisted, 3.0%-6.3%) Region: Europe	33.7
2	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: Low (Enlisted, 3.0%-6.3%) Region: Asia/Pacific Islands, Other	17.8
3	Race/ethnicity: White, Hispanic Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: High (Enlisted, 6.5%-8.5%) Deployed: No	26.0
4	Race/ethnicity: Native American, Other Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: High (Enlisted, 6.5%-8.5%) Deployed: No	38.4
5	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Male Minority density: Low (Enlisted, 8.1%-33.2%) Hispanic density: High (Enlisted, 6.5%-8.5%) Deployed: Yes	39.8
6	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Male Minority density: High (Enlisted, 33.5%-53.0%)	38.9
7	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Female Minority density: Low (Enlisted, 8.1%-33.2%)	43.5
8	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E1-E3 Gender: Female Minority density: High (Enlisted, 33.5%-53.0%)	60.8
9	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E4, Enlisted Unknown Education: Less Than High School, High School Graduate Marital status: Single	44.3

Table B-7. (continued)

Segment number	Description	Response Rate
10	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E4, Enlisted Unknown Education: Less Than High School, High School Graduate Marital status: Married	38.6
11	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E4, Enlisted Unknown Education: Some College, College Graduate Or Higher	66.3
12	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E5 Region: Northeast US, North Central US, Southern US	52.1
13	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E5 Region: Western US	41.1
14	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E5 Region: Europe, Asia/Pacific Islands, Other	54.6
15A	Race/ethnicity: White, Hispanic, Native American Paygrade: E6 Education: Less Than High School, High School Graduate	66.1
15B	Race/ethnicity: White, Hispanic, Native American Paygrade: E7, E8 Education: Less Than High School, High School Graduate	68.2
16A	Race/ethnicity: Other Paygrade: E6 Education: Less Than High School, High School Graduate	56.7
16B	Race/ethnicity: Other Paygrade: E7, E8 Education: Less Than High School, High School Graduate	61.4
17A	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E6 Education: Some College, College Graduate Or Higher Marital status: Single	88.7
17B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E7, E8 Education: Some College, College Graduate Or Higher Marital status: Single	88.9
18A	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E6 Education: Some College, College Graduate Or Higher Marital status: Married	81.8
18B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E7, E8 Education: Some College, College Graduate Or Higher Marital status: Married	72.8
19A	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: E9	86.3
19B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: W1-W5, Officer Unknown Minority density: High (Officers, 15.0%-34.7%)	80.7
20B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: W1-W5, Officer Unknown Minority density: Low (Officers, 0.0%-14.8%) Education: Less Than High School, High School Graduate, Some College	63.3

Table B-7. (continued)

Segment number	Description	Response Rate
21B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: W1-W5, Officer Unknown Minority density: Low (Officers, 0.0%-14.8%) Education: College Graduate Or Higher	77.1
22	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O1, O2 Gender: Male	69.0
23	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O1, O2 Gender: Female	59.2
24	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O3	72.6
25	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O4 Marital status: Single	83.5
26	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O4 Marital status: Married Region: Northeast US, North Central US, Southern US	81.1
27A	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O4 Marital status: Married Region: Western US	65.5
27B	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O4 Marital status: Married Region: Europe, Asia/Pacific Islands, Other	65.5
28	Race/ethnicity: White, Hispanic, Native American, Other Paygrade: O5, O6	83.1
29	Race/ethnicity: Black Paygrade: E1	34.7
30	Race/ethnicity: Black Paygrade: E2, E3	26.1
31	Race/ethnicity: Black Paygrade: E4, Enlisted Unknown Gender: Male	29.8
32	Race/ethnicity: Black Paygrade: E4, Enlisted Unknown Gender: Female	36.6
33	Race/ethnicity: Black Paygrade: E5	45.0
34	Race/ethnicity: Black Paygrade: E6	54.3
35	Race/ethnicity: Black Paygrade: E7	64.8
36	Race/ethnicity: Black Paygrade: E8, E9	74.1
37	Race/ethnicity: Black Paygrade: W1	61.6
38	Race/ethnicity: Black Paygrade: W2-W5, Officer Unknown	72.7
39	Race/ethnicity: Black Paygrade: O1, O2 Hispanic density: Low (Officers, 0.0%-2.8%)	65.9

Table B-7. (continued)

Segment number	Description	Response Rate
40	Race/ethnicity: Black Paygrade: O1, O2 Hispanic density: High (Officers, 2.8%-7.8%)	52.7
41	Paygrade: O3, O4 Marital status: Single	62.6
42	Race/ethnicity: Black Paygrade: O3, O4 Marital status: Married	69.1
43	Race/ethnicity: Black Paygrade: O5, O6	76.3
44	Race/ethnicity: Asia/Pacific Islander Paygrade: E1-E3 Minority density: Low (Enlisted, 8.1%-33.2%)	39.2
45	Race/ethnicity: Asia/Pacific Islander Paygrade: E1-E3 Minority density: High (Enlisted, 33.5%-53.0%)	53.5
46	Race/ethnicity: Asia/Pacific Islander Paygrade: E4, Enlisted Unknown Education: Less Than High School, High School Graduate Gender: Male	45.9
47	Race/ethnicity: Asia/Pacific Islander Paygrade: E4, Enlisted Unknown Education: Less Than High School, High School Graduate Gender: Female	58.1
48	Race/ethnicity: Asia/Pacific Islander Paygrade: E4, Enlisted Unknown Education: Some College, College Graduate Or Higher	68.0
49	Race/ethnicity: Asia/Pacific Islander Paygrade: E5, E6 Hispanic density: Low (Enlisted, 3.0%-6.3%)	53.5
50	Race/ethnicity: Asia/Pacific Islander Paygrade: E5, E6 Hispanic density: High (Enlisted, 6.5%-8.5%) Marital status: Single	58.1
51	Race/ethnicity: Asia/Pacific Islander Paygrade: E5, E6 Hispanic density: High (Enlisted, 6.5%-8.5%) Marital status: Married	73.6
52A	Race/ethnicity: Asia/Pacific Islander Paygrade: E7-E9	75.1
52B	Race/ethnicity: Asia/Pacific Islander Paygrade: W1-W5, Officer Unknown, O1-O6	74.6

Table B-8.

Segment Variables Included in the Model for Nonresponse Adjustment for the Navy, and Response Rate in Each Segment

Segment number	Description	Response Rate
53	Race/ethnicity: White Paygrade: E1, E2 Region: Northeast US, North Central US, Southern US	37.0
54A	Race/ethnicity: White Paygrade: E1, E2 Region: Western US	16.9
54B	Race/ethnicity: White Paygrade: E1, E2 Region: Europe, Asia/Pacific Islands, Other	30.5
55	Race/ethnicity: White Paygrade: E3	44.5
56A	Race/ethnicity: White Paygrade: E4, Enlisted Unknown Region: United States	49.5
56B	Race/ethnicity: White Paygrade: E5 Region: United States	51.9
57A	Race/ethnicity: White Paygrade: E4, Enlisted Unknown Region: Europe, Asia/Pacific Islands	55.1
57B	Race/ethnicity: White Paygrade: E5 Region: Europe, Asia/Pacific Islands	78.1
58A	Race/ethnicity: White Paygrade: E4, Enlisted Unknown Region: Other	43.1
58B	Race/ethnicity: White Paygrade: E5 Region: Other	57.4
59	Race/ethnicity: White Paygrade: E6	63.3
60A	Race/ethnicity: White Paygrade: E7-E9 Region: Northeast US, North Central US, Southern US	75.8
60B	Race/ethnicity: White Paygrade: W1-W5, Officer Unknown, O1-O3 Region: Northeast US, North Central US, Southern US	74.3
61A	Race/ethnicity: White Paygrade: E7-E9 Region: Western US	64.2
61B	Race/ethnicity: White Paygrade: W1-W5, Officer Unknown, O1-O3 Region: Western US	66.1
62A	Race/ethnicity: White Paygrade: E7-E9 Region: Europe, Asia/Pacific Islands, Other	74.3
62B	Race/ethnicity: White Paygrade: W1-W5, Officer Unknown, O1-O3 Region: Europe, Asia/Pacific Islands, Other	81.4
63	Race/ethnicity: White Paygrade: O4-O6	82.8

Table B-8. (continued)

Segment number	Description	Response Rate
64	Race/ethnicity: Black Paygrade: E1-E3	27.7
65	Race/ethnicity: Black Paygrade: E4, Enlisted Unknown	38.5
66	Race/ethnicity: Black Paygrade: E5 Region: Northeast US, North Central US, Southern US	40.7
67A	Race/ethnicity: Black Paygrade: E5 Region: Western US Minority density: Low (Enlisted, 8.1%-33.2%)	65.0
67B	Race/ethnicity: Black Paygrade: E5 Region: Europe, Asia/Pacific Islands, Other Minority density: Low (Enlisted, 8.1%-33.2%)	63.2
68A	Race/ethnicity: Black Paygrade: E5 Region: Western US Minority density: High (Enlisted, 33.5%-53.0%)	45.7
68B	Race/ethnicity: Black Paygrade: E5 Region: Europe, Asia/Pacific Islands, Other Minority density: High (Enlisted, 33.5%-53.0%)	45.8
69	Race/ethnicity: Black Paygrade: E6 Marital status: Single	61.6
70	Race/ethnicity: Black Paygrade: E6 Marital status: Married	50.2
71A	Race/ethnicity: Black Paygrade: E7-E9	62.2
71B	Race/ethnicity: Black Paygrade: W1-W5, Officer Unknown, O1-O6 Gender: Male	66.3
72B	Race/ethnicity: Black Paygrade: W1-W5, Officer Unknown, O1-O6 Gender: Female	55.6
73	Race/ethnicity: Hispanic, Native American Paygrade: E1 Region: Northeast US, North Central US, Southern US	29.1
74A	Race/ethnicity: Hispanic, Native American Paygrade: E1 Region: Western US	41.9
74B	Race/ethnicity: Hispanic, Native American Paygrade: E1 Region: Europe, Asia/Pacific Islands, Other	42.4
75	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Northeast US, North Central US	30.2
76	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Southern US	35.7

Table B-8. (continued)

Segment number	Description	Response Rate
77A	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Western US Deployed: No	43.6
77B	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Europe, Asia/Pacific Islands, Other Deployed: No	45.4
78A	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Western US Deployed: Yes	32.3
78B	Race/ethnicity: Hispanic, Native American Paygrade: E2, E3 Region: Europe, Asia/Pacific Islands, Other Deployed: Yes	40.8
79AA	Race/ethnicity: Hispanic, Native American Paygrade: E4, Enlisted Unknown Region: United States	48.2
79AB	Race/ethnicity: Hispanic, Native American Paygrade: E4, Enlisted Unknown Region: Europe	46.3
79BA	Race/ethnicity: Hispanic, Native American Paygrade: E5, E6 Region: United States	58.4
79BB	Race/ethnicity: Hispanic, Native American Paygrade: E5, E6 Region: Europe	68.5
80A	Race/ethnicity: Hispanic, Native American Paygrade: E4, Enlisted Unknown Region: Asia/Pacific Islands	70.6
80B	Race/ethnicity: Hispanic, Native American Paygrade: E5, E6 Region: Asia/Pacific Islands	72.0
81A	Race/ethnicity: Hispanic, Native American Paygrade: E4, Enlisted Unknown Region: Other	44.2
81B	Race/ethnicity: Hispanic, Native American Paygrade: E5, E6 Region: Other	56.5
82A	Race/ethnicity: Hispanic, Native American Paygrade: E7-E9 Region: United States	66.8
82B	Race/ethnicity: Hispanic, Native American Paygrade: W1-W5	86.5
83AB	Race/ethnicity: Hispanic, Native American Paygrade: E7-E9 Region: Europe, Asia/Pacific Islands, Other	81.8
84	Race/ethnicity: Hispanic, Native American Paygrade: Officer Unknown, O1	62.5
85	Race/ethnicity: Hispanic, Native American Paygrade: O2, O3	71.0
86	Race/ethnicity: Hispanic, Native American Paygrade: O4-O6	77.5

Table B-8. (continued)

Segment number	Description	Response Rate
87	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E1	37.7
88	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E2, E3	46.6
89AA	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E4, Enlisted Unknown Region: United States	60.7
89BA	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5, E6 Region: United States	61.2
89BB	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5, E6 Region: Europe	63.1
90A	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E4, Enlisted Unknown Region: Europe, Asia/Pacific Islands, Other	69.6
90B	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5, E6 Region: Asia/Pacific Islands, Other	73.3
92A	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E7-E9 Marital status: Single	75.9
92B	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: W1-W5, Officer Unknown, O1 Marital status: Single	66.9
93A	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E7-E9 Marital status: Married	76.8
93B	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: W1-W5, Officer Unknown, O1 Marital status: Married	77.3
94	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: O2, O3 Marital status: Single Black density: Low (Officers, 0.0%-8.4%)	74.2
95	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: O2, O3 Marital status: Single Black density: High (Officers, 8.4%-21.0%)	77.3
96	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: O2, O3 Marital status: Married	79.1
97	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: O4-O6	79.7

Table B-9.

Segment Variables Included in the Model for Nonresponse Adjustment for the Marine Corps, and Response Rate in Each Segment

Segment number	Description	Response Rate
98	Race/ethnicity: White, Other Paygrade: E1-E3	34.1
99	Race/ethnicity: Asia/Pacific Islander Paygrade: E1-E3	40.3
100	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: E4, Enlisted Unknown Marital status: Single	48.8
101	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: E4, Enlisted Unknown Marital status: Married	41.6
102	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: E5	54.6
103A	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: E6	62.0
103B	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: E7-E9	65.3
104	Race/ethnicity: White Paygrade: Warrant Unknown, W1-W5, Officer Unknown, O1-O3, O6	75.0
105	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: Warrant Unknown, W1-W5, Officer Unknown, O1-O3, O6	64.5
106	Race/ethnicity: White, Asia/Pacific Islander, Other Paygrade: O4, O5	81.6
107	Race/ethnicity: Black Paygrade: E1-E3	24.8
108	Race/ethnicity: Hispanic, Native American Paygrade: E1-E3	31.1
109	Race/ethnicity: Black, Hispanic, Native American Paygrade: E4, Enlisted Unknown Marital status: Single	43.3
110	Race/ethnicity: Black Paygrade: E4, Enlisted Unknown Marital status: Married	29.4
111	Race/ethnicity: Hispanic, Native American Paygrade: E4 Marital status: Married	40.2
112	Race/ethnicity: Black Paygrade: E5, E6	43.3
113	Race/ethnicity: Hispanic, Native American Paygrade: E5, E6	53.0
114	Race/ethnicity: Black, Hispanic, Native American Paygrade: E7	60.8
115A	Race/ethnicity: Black, Hispanic, Native American Paygrade: E8, E9	71.0
115B	Race/ethnicity: Black, Hispanic, Native American Paygrade: W1-W5, Officer Unknown	71.0
116	Race/ethnicity: Black, Hispanic, Native American Paygrade: O1-O3	61.8
117	Race/ethnicity: Black, Hispanic, Native American Paygrade: O4-O6	77.0

Table B-10.
Segment Variables Included in the Model for Nonresponse Adjustment for the Air Force, and Response Rate in Each Segment

Segment number	Description	Response Rate
118	Race/ethnicity: White, Native American Paygrade: E1, E2	58.1
119	Race/ethnicity: White, Native American Paygrade: E3 Region: Northeast US, North Central US, Southern US	52.8
120	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E4 Region: Northeast US, North Central US, Southern US	42.5
121A	Race/ethnicity: White, Native American Paygrade: E3 Region: Western US	52.7
121B	Race/ethnicity: White, Native American Paygrade: E3 Region: Europe, Asia/Pacific Islands, Other	48.9
122A	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E4 Region: Western US Marital status: Single Gender: Male	61.6
122B	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E4 Region: Europe, Asia/Pacific Islands, Other Marital status: Single Gender: Male	56.9
123A	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E4 Region: Western US Marital status: Single Gender: Female	69.5
123B	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E4 Region: Europe, Asia/Pacific Islands, Other Marital status: Single Gender: Female	74.2
124BA	Race/ethnicity: White, Native American Paygrade: E4, Enlisted Unknown Region: Western US Marital status: Married	50.9
124BB	Race/ethnicity: White, Native American Paygrade: E4, Enlisted Unknown Region: Europe, Asia/Pacific Islands, Other Marital status: Married	48.4
125A	Race/ethnicity: White, Native American Paygrade: E5 Gender: Male	60.1
126A	Race/ethnicity: White, Native American Paygrade: E6 Gender: Male	67.4
126B	Race/ethnicity: White, Native American Paygrade: E7 Gender: Male	63.0

Table B-10. (continued)

Segment number	Description	Response Rate
127A	Race/ethnicity: White Paygrade: E5, E6 Gender: Female	78.7
127B	Race/ethnicity: White Paygrade: E7 Gender: Female	70.1
128A	Race/ethnicity: Native American Paygrade: E5, E6 Gender: Female	63.9
128B	Race/ethnicity: Native American Paygrade: E7 Gender: Female	67.4
129A	Race/ethnicity: White, Native American Paygrade: E8, E9	85.4
130	Race/ethnicity: White, Native American Paygrade: O1-O4	74.1
131	Race/ethnicity: White, Native American Paygrade: O5, O6	79.8
132	Race/ethnicity: Black Paygrade: Enlisted Unknown, E1-E4 Gender: Male	41.1
133	Race/ethnicity: Black Paygrade: Enlisted Unknown, E1-E4 Gender: Female	52.0
134	Race/ethnicity: Black Paygrade: E5	54.7
135A	Race/ethnicity: Black Paygrade: E6	65.1
135B	Race/ethnicity: Black Paygrade: E7-E9	66.9
135C	Race/ethnicity: Black Paygrade: W1-W5, Officer Unknown, O1, O2	61.4
136	Race/ethnicity: Black Paygrade: O3-O6 Gender: Male Race/ethnicity: Black	74.9
137	Paygrade: O3-O6 Gender: Female	66.0
138	Race/ethnicity: Hispanic Education: Less Than High School, High School Graduate	47.4
139	Race/ethnicity: Hispanic Education: Some College Paygrade: Enlisted Unknown, E1-E4	51.9
140A	Race/ethnicity: Hispanic Education: Some College Paygrade: E5-E9 Minority density: Low (Enlisted, 8.1%-33.2%)	67.7
141A	Race/ethnicity: Hispanic Education: Some College Paygrade: E5-E9, Officer Unknown, O1-O5 Minority density: High (Enlisted, 33.5%-53.0%), Low (Officers, 0.0%-14.8%), High (Officers, 15.0%-34.7%)	56.7

Table B-10. (continued)

Segment number	Description	Response Rate
142	Race/ethnicity: Hispanic Education: College Graduate Or Higher Region: Northeast US, North Central US Hispanic density: High (Enlisted, 6.5%-8.5%), Low (Officer, 0.0%-2.8%)	77.5
143	Race/ethnicity: Hispanic Education: College Graduate Or Higher Region: Southern US Hispanic density: High (Enlisted, 6.5%-8.5%), Low (Officer, 0.0%-2.8%)	65.3
144	Race/ethnicity: Hispanic Education: College Graduate Or Higher Region: Northeast US, North Central US Hispanic density: Low (Enlisted, 3.0%-6.3%), High (Officer, 2.8%-7.8%)	79.6
145A	Race/ethnicity: Hispanic Education: College Graduate Or Higher Region: Western US	79.2
145B	Race/ethnicity: Hispanic Education: College Graduate Or Higher Region: Europe, Asia/Pacific Islands, Other	81.5
146	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: Enlisted Unknown, E1-E4	59.6
147	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5-E9, Officer Unknown, O1-O4 Minority density: Low (Enlisted, 8.1%-33.2%), Low (Officer, 0.0%-14.8%) Hispanic density: Low (Enlisted, 3.0%-6.3%), Low (Officer, 0.0%-2.8%)	74.5
148	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5-E9, Officer Unknown, O1-O4 Minority density: Low (Enlisted, 8.1%-33.2%), Low (Officer, 0.0%-14.8%) Hispanic density: High (Enlisted, 6.5%-8.5%), High (Officer, 2.8%-7.8%)	84.8
149	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5-E9, Officer Unknown, O1-O4 Minority density: High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) Marital status: Single	75.9
150	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5-E9, Officer Unknown, O1-O4 Minority density: High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) Marital status: Married Hispanic density: Low (Enlisted, 3.0%-6.3%), High (Enlisted, 6.5%-8.5%), Low (Officers, 0.0%-2.8%)	66.7
151	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5-E9, Officer Unknown, O1-O4 Minority density: High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) Marital status: Married Hispanic density: High (Officers, 2.8%-7.8%)	50.5
152	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: O5, O6	84.9

Table B-11.
Segment Variables Included in the Model for Nonresponse Adjustment for the Coast Guard, and Response Rate in Each Segment

Segment number	Description	Response Rate
153	Race/ethnicity: White Paygrade: E1-E3	35.8
154	Race/ethnicity: White Paygrade: E4, Enlisted Unknown	46.2
155	Race/ethnicity: White Paygrade: E5-E9	64.5
156	Race/ethnicity: White Paygrade: Warrant Unknown, W1-W5, Officer Unknown, O1-O6	79.8
157	Race/ethnicity: Black Paygrade: Enlisted Unknown, E1-E4	33.7
158	Race/ethnicity: Native American Paygrade: Enlisted Unknown, E1-E4	40.9
159	Race/ethnicity: Black Paygrade: E5, E6	47.2
160	Race/ethnicity: Native American Paygrade: E5, E6	63.0
161A	Race/ethnicity: Black, Native American Paygrade: E7-E9 SERVICE=Coast Guard	60.6
161B	Race/ethnicity: Black, Native American Paygrade: W1-W5, Officer Unknown, O1, O2	68.9
162	Race/ethnicity: Black, Native American Paygrade: O3-O6	80.0
163	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: E1-E3	36.1
164	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: E4, Enlisted Unknown	48.0
165	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: E5	56.0
166	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: E6, E7	64.7
167A	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: E8, E9	72.3
167B	Race/ethnicity: Hispanic, Asia/Pacific Islander, Other Paygrade: W1-W5, Officer Unknown, O1-O6	78.4

Table B-12.
Segment Variables Included in the Model for Nonresponse Adjustment for the AGR/TARs, and Response Rate in Each Segment

Segment number	Description	Response Rate
168A	Race/ethnicity: White, Native American Paygrade: Enlisted Unknown, E1-E4 Minority density: Low (Enlisted, 8.1%-33.2%)	32.5
168B	Race/ethnicity: White, Native American Paygrade: E5 Minority density: Low (Enlisted, 8.1%-33.2%)	44.2
169A	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: Enlisted Unknown, E1-E4 Minority density: Low (Enlisted, 8.1%-33.2%)	64.4
169B	Race/ethnicity: Asia/Pacific Islander, Other Paygrade: E5 Minority density: Low (Enlisted, 8.1%-33.2%)	67.1
170A	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: Enlisted Unknown, E1-E4 Minority density: High (Enlisted, 33.5%-53.0%)	53.3
170B	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: E5 Minority density: High (Enlisted, 33.5%-53.0%)	67.2
171	Race/ethnicity: White, Other Paygrade: E6	65.1
172	Race/ethnicity: Native American, Asia/Pacific Islander Paygrade: E6	75.2
173A	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: E7-E9 Region: Northeast US, North Central US	89.0
174A	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: E7-E9 Region: Southern US, Western US	78.1
175AB	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: E7-E9 Region: Europe, Asia/Pacific Islands, Other	51.1
176	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: W1-W5, Officer Unknown, O1-O6 Education: Less Than High School, High School Graduate, Some College	89.0
177	Race/ethnicity: White, Native American, Asia/Pacific Islander, Other Paygrade: W1-W5, Officer Unknown, O1-O6 Education: College Graduate Or Higher	82.9
178A	Race/ethnicity: Black Paygrade: Enlisted Unknown, E1-E4	30.4
178B	Race/ethnicity: Black Paygrade: E5, E6	51.3
179	Race/ethnicity: Black Paygrade: E7-E9	66.9

Table B-12. (continued)

Segment number	Description	Response Rate
180B	Race/ethnicity: Black Paygrade: W1-W5, Officer Unknown, O1-O6	74.8
181	Race/ethnicity: Hispanic Hispanic density: Low (Enlisted, 3.0%-6.3%), Low (Officer, 0.0%-2.8%), High (Officer, 2.8%-7.8%)	76.3
182	Race/ethnicity: Hispanic Hispanic density: High (Enlisted, 6.5%-8.5%)	58.1

Table B-13.
Stratum-Level Observed Response Rates and Variance Estimation Strata

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
1	1	Army * US * E1 to E3 * non-Hispanic White	177	34.6
2	2	Army * US * E1 to E3 * non-Hispanic Black	211	28.1
3	3	Army * US * E1 to E3 * Hispanic	206	37.7
4	4	Army * US * E1 to E3 * Native American	169	39.0
5	5	Army * US * E1 to E3 * Asian & Pacific Islander	138	42.6
6	6	Army * US * E1 to E3* Other	103	41.0
7	7	Army * US * E4 * non-Hispanic White	305	44.7
8	8	Army * US * E4 * non-Hispanic Black	294	32.7
9	9	Army * US * E4 * Hispanic	207	47.2
10	10	Army * US * E4 * Native American	176	43.3
11	11	Army * US * E4 *Asian & Pacific Islander	181	52.9
12	12	Army * US * E4 * Other	187	42.2
13	13	Army * US * E5 to E6 * non-Hispanic White	204	58.0
14	14	Army * US * E5 to E6 * non-Hispanic Black	605	49.4
15	15	Army * US * E5 to E6 * Hispanic	182	59.1
16	16	Army * US * E5 to E6 * Native American	193	57.4
17	17	Army * US * E5 to E6 * Asian & Pacific Islander	150	59.5
18	18	Army * US * E5 to E6 * Other	304	55.9
19	19	Army * US * E7 to E9 * non-Hispanic White	252	72.6
20	20	Army * US * E7 to E9 * non-Hispanic Black	337	67.1
21	21	Army * US * E7 to E9 *Hispanic	153	68.9
22	22	Army * US * E7 to E9 * Native American	103	67.8
23	23	Army * US * E7 to E9 * Asian & Pacific Islander	92	76.0
24	24	Army * US * E7 to E9 * Other	120	62.5
25	25	Army * US * W1 to O6 * non-Hispanic White	669	74.9
26	26	Army * US * W1 to O6 * non-Hispanic Black	1280	66.5
27	27	Army * US * W1 to O6 * Hispanic	958	72.4
28	28	Army * US * W1 to O6 * Native American	227	74.4
29	29	Army * US * W1 to O6 * Asian & Pacific Islander	951	74.9
30	30	Army * US * W1 to O6 * Other	86	72.3
31	31	Army * Overseas * E1 to E3 * non-Hispanic White	89	31.3
32	32	Army * Overseas * E1 to E3 * non-Hispanic Black	80	27.9
33	33	Army * Overseas * E1 to E3 * Hispanic	112	37.8
34	34	Army * Overseas * E1 to E3 * Native American	46	36.5
35	35	Army * Overseas * E1 to E3 * Asian & Pacific Islander	105	46.7
6	36	Army * Overseas * E1 to E3 * Other	13	25.0
36	37	Army * Overseas * E4 * non-Hispanic White	206	41.5
37	38	Army * Overseas * E4 * non-Hispanic Black	160	28.3
38	39	Army * Overseas * E4 * Hispanic	170	45.5
39	40	Army * Overseas * E4 * Native American	94	45.9
40	41	Army * Overseas * E4 * Asian & Pacific Islander	181	48.7
41	42	Army * Overseas * E4 * Other	73	41.5
42	43	Army * Overseas * E5 to E6 * non-Hispanic White	202	59.2
43	44	Army * Overseas * E5 to E6 * non-Hispanic Black	368	48.5
44	45	Army * Overseas * E5 to E6 * Hispanic	184	55.4
45	46	Army * Overseas * E5 to E6 * Native American	95	52.8
46	47	Army * Overseas * E5 to E6 * Asian & Pacific Islander	190	59.4
47	48	Army * Overseas * E5 to E6 * Other	122	56.2
48	49	Army * Overseas * E7 to E9 * non-Hispanic White	92	70.8
49	50	Army * Overseas * E7 to E9 * non-Hispanic Black	162	65.1

Table B-13. (continued)

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
50	51	Army * Overseas * E7 to E9 * Hispanic	128	79.5
51	52	Army * Overseas * E7 to E9 * Native American	41	68.3
52	53	Army * Overseas * E7 to E9 * Asian & Pacific Islander	93	72.1
53	54	Army * Overseas * E7 to E9 * Other	52	72.2
54	55	Army * Overseas * W1 to O6 * non-Hispanic White	201	72.0
55	56	Army * Overseas * W1 to O6 * non-Hispanic Black	303	64.9
56	57	Army * Overseas * W1 to O6 * Hispanic	300	76.1
57	58	Army * Overseas * W1 to O6 * Native American	58	68.2
58	59	Army * Overseas * W1 to O6 * Asian & Pacific Islander	266	73.7
59	60	Army * Overseas * W1 to O6 * Other	22	68.8
60	61	Navy * US * E1 to E3 * non-Hispanic White	235	38.8
61	62	Navy * US * E1 to E3 * non-Hispanic Black	206	28.1
62	63	Navy * US * E1 to E3 * Hispanic	395	35.9
63	64	Navy * US * E1 to E3 * Native American	187	39.5
64	65	Navy * US * E1 to E3 * Asian & Pacific Islander	282	45.0
65	66	Navy * US * E1 to E3 * Other	6	30.0
66	67	Navy * US * E4 * non-Hispanic White	197	49.5
67	68	Navy * US * E4 * non-Hispanic Black	169	37.9
68	69	Navy * US * E4 * Hispanic	205	48.5
69	70	Navy * US * E4 * Native American	85	44.5
70	71	Navy * US * E4 * Asian & Pacific Islander	187	61.3
65	72	Navy * US * E4 * Other	3	37.5
71	73	Navy * US * E5 to E6 * non-Hispanic White	264	57.1
72	74	Navy * US * E5 to E6 * non-Hispanic Black	325	47.9
73	75	Navy * US * E5 to E6 * Hispanic	236	58.4
74	76	Navy * US * E5 to E6 * Native American	135	57.7
75	77	Navy * US * E5 to E6 * Asian & Pacific Islander	276	61.6
65	78	Navy * US * E5 to E6 * Other	28	56.0
76	79	Navy * US * E7 to E9 * non-Hispanic White	258	72.3
77	80	Navy * US * E7 to E9 * non-Hispanic Black	61	62.2
78	81	Navy * US * E7 to E9 * Hispanic	49	66.2
79	82	Navy * US * E7 to E9 * Native American	54	71.1
80	83	Navy * US * E7 to E9 * Asian & Pacific Islander	195	75.3
81	84	Navy * US * E7 to E9 * Other	16	76.2
82	85	Navy * US * W1 to O6 * non-Hispanic White	514	75.9
83	86	Navy * US * W1 to O6 * non-Hispanic Black	372	64.1
84	87	Navy * US * W1 to O6 * Hispanic	662	70.2
85	88	Navy * US * W1 to O6 * Native American	138	73.8
86	89	Navy * US * W1 to O6 * Asian & Pacific Islander	819	74.9
86	90	Navy * US * W1 to O6 * Other	12	80.0
87	91	Navy * Overseas * E1 to E3 * non-Hispanic White	73	38.6
88	92	Navy * Overseas * E1 to E3 * non-Hispanic Black	37	24.7
89	93	Navy * Overseas * E1 to E3 * Hispanic	147	44.5
90	94	Navy * Overseas * E1 to E3 * Native American	30	33.3
91	95	Navy * Overseas * E1 to E3 * Asian & Pacific Islander	74	49.7
65	96	Navy * Overseas * E1 to E3 * Other	0	0.0
92	97	Navy * Overseas * E4 * non-Hispanic White	74	50.3
93	98	Navy * Overseas * E4 * non-Hispanic Black	44	43.1
94	99	Navy * Overseas * E4 * Hispanic	106	51.5
95	100	Navy * Overseas * E4 * Native American	38	57.6
96	101	Navy * Overseas * E4 * Asian & Pacific Islander	94	69.6

Table B-13. (continued)

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
65	102	Navy * Overseas * E4 * Other	2	66.7
97	103	Navy * Overseas * E5 to E6 * non-Hispanic White	141	65.6
98	104	Navy * Overseas * E5 to E6 * non-Hispanic Black	106	55.5
99	105	Navy * Overseas * E5 to E6 * Hispanic	157	63.3
100	106	Navy * Overseas * E5 to E6 * Native American	54	64.3
101	107	Navy * Overseas * E5 to E6 * Asian & Pacific Islander	253	71.9
65	108	Navy * Overseas * E5 to E6 * Other	10	76.9
102	109	Navy * Overseas * E7 to E9 * non-Hispanic White	52	74.3
77	110	Navy * Overseas * E7 to E9 * non-Hispanic Black	16	61.5
103	111	Navy * Overseas * E7 to E9 * Hispanic	28	82.4
79	112	Navy * Overseas * E7 to E9 * Native American	9	75.0
104	113	Navy * Overseas * E7 to E9 * Asian & Pacific Islander	120	82.2
81	114	Navy * Overseas * E7 to E9 * Other	5	83.3
105	115	Navy * Overseas * W1 to O6 * non-Hispanic White	131	84.5
106	116	Navy * Overseas * W1 to O6 * non-Hispanic Black	72	64.3
107	117	Navy * Overseas * W1 to O6 * Hispanic	138	73.4
108	118	Navy * Overseas * W1 to O6 * Native American	38	82.6
109	119	Navy * Overseas * W1 to O6 * Asian & Pacific Islander	203	78.7
109	120	Navy * Overseas * W1 to O6 * Other	3	75.0
110	121	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic White	361	34.1
111	122	Marine Corps * US + Overseas * E1 to E3 * non-Hispanic Black	197	24.8
112	123	Marine Corps * US + Overseas * E1 to E3 * Hispanic	456	30.8
113	124	Marine Corps * US + Overseas * E1 to E3 * Native American	275	34.2
114	125	Marine Corps * US + Overseas * E1 to E3 * Asian & Pacific Islander	330	40.3
115	126	Marine Corps * US + Overseas * E1 to E3 * Other	36	34.3
116	127	Marine Corps * US + Overseas * E4 * non-Hispanic White	241	46.3
117	128	Marine Corps * US + Overseas * E4 * non-Hispanic Black	118	37.1
118	129	Marine Corps * US + Overseas * E4 * Hispanic	238	42.1
119	130	Marine Corps * US + Overseas * E4 * Native American	116	46.8
120	131	Marine Corps * US + Overseas * E4 * Asian & Pacific Islander	173	48.9
121	132	Marine Corps * US + Overseas * E4 * Other	29	58.0
122	133	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic White	278	57.6
123	134	Marine Corps * US + Overseas * E5 to E6 * non-Hispanic Black	257	43.3
124	135	Marine Corps * US + Overseas * E5 to E6 * Hispanic	229	53.1
125	136	Marine Corps * US + Overseas * E5 to E6 * Native American	117	50.6
126	137	Marine Corps * US + Overseas * E5 to E6 * Asian & Pacific Islander	195	54.8
127	138	Marine Corps * US + Overseas * E5 to E6 * Other	39	57.4
18	139	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic White	128	65.0
129	140	Marine Corps * US + Overseas * E7 to E9 * non-Hispanic Black	139	63.8
130	141	Marine Corps * US + Overseas * E7 to E9 * Hispanic	107	64.1
131	142	Marine Corps * US + Overseas * E7 to E9 * Native American	48	72.7
132	143	Marine Corps * US + Overseas * E7 to E9 * Asian & Pacific Islander	82	66.7
127	144	Marine Corps * US + Overseas * E7 to E9 * Other	18	81.8
133	145	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic White	469	76.8
134	146	Marine Corps * US + Overseas * W1 to O6 * non-Hispanic Black	403	65.2
135	147	Marine Corps * US + Overseas * W1 to O6 * Hispanic	423	68.7
136	148	Marine Corps * US + Overseas * W1 to O6 * Native American	61	57.0
137	149	Marine Corps * US + Overseas * W1 to O6 * Asian & Pacific Islander	180	67.4

Table B-13. (continued)

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
138	150	Marine Corps * US + Overseas * W1 to O6 * Other	45	68.2
139	151	Air Force * US * E1 to E3 * non-Hispanic White	251	55.7
140	152	Air Force * US * E1 to E3 * non-Hispanic Black	128	44.4
141	153	Air Force * US * E1 to E3 * Hispanic	183	50.0
142	154	Air Force * US * E1 to E3 * Native American	100	50.8
143	155	Air Force * US * E1 to E3 * Asian & Pacific Islander	168	59.2
144	156	Air Force * US * E1 to E3 * Other	52	59.1
145	157	Air Force * US * E4 * non-Hispanic White	274	49.3
146	158	Air Force * US * E4 * non-Hispanic Black	127	45.8
147	159	Air Force * US * E4 * Hispanic	114	48.5
148	160	Air Force * US * E4 * Native American	75	47.8
149	161	Air Force * US * E4 * Asian & Pacific Islander	106	55.8
150	162	Air Force * US * E4 * Other	40	70.2
151	163	Air Force * US * E5 to E6 * non-Hispanic White	285	63.9
152	164	Air Force * US * E5 to E6 * non-Hispanic Black	286	58.1
153	165	Air Force * US * E5 to E6 * Hispanic	155	63.0
154	166	Air Force * US * E5 to E6 * Native American	169	58.9
155	167	Air Force * US * E5 to E6 * Asian & Pacific Islander	139	70.6
156	168	Air Force * US * E5 to E6 * Other	57	70.4
157	169	Air Force * US * E7 to E9 * non-Hispanic White	252	68.1
158	170	Air Force * US * E7 to E9 * non-Hispanic Black	128	66.3
159	171	Air Force * US * E7 to E9 * Hispanic	78	64.5
160	172	Air Force * US * E7 to E9 * Native American	164	67.2
161	173	Air Force * US * E7 to E9 * Asian & Pacific Islander	61	68.5
162	174	Air Force * US * E7 to E9 * Other	19	73.1
163	175	Air Force * US * W1 to O6 * non-Hispanic White	749	75.3
164	176	Air Force * US * W1 to O6 * non-Hispanic Black	713	69.6
165	177	Air Force * US * W1 to O6 * Hispanic	747	73.4
166	178	Air Force * US * W1 to O6 * Native American	208	75.6
167	179	Air Force * US * W1 to O6 * Asian & Pacific Islander	850	77.6
168	180	Air Force * US * W1 to O6 * Other	100	75.8
169	181	Air Force * Overseas * E1 to E3 * non-Hispanic White	59	46.5
170	182	Air Force * Overseas * E1 to E3 * non-Hispanic Black	31	44.9
171	183	Air Force * Overseas * E1 to E3 * Hispanic	53	51.0
172	184	Air Force * Overseas * E1 to E3 * Native American	27	50.9
173	185	Air Force * Overseas * E1 to E3 * Asian & Pacific Islander	49	65.3
144	186	Air Force * Overseas * E1 to E3 * Other	4	44.4
174	187	Air Force * Overseas * E4 * non-Hispanic White	172	56.6
175	188	Air Force * Overseas * E4 * non-Hispanic Black	74	43.8
176	189	Air Force * Overseas * E4 * Hispanic	78	51.0
177	190	Air Force * Overseas * E4 * Native American	33	51.6
178	191	Air Force * Overseas * E4 * Asian & Pacific Islander	89	62.7
150	192	Air Force * Overseas * E4 * Other	11	55.0
179	193	Air Force * Overseas * E5 to E6 * non-Hispanic White	203	66.6
180	194	Air Force * Overseas * E5 to E6 * non-Hispanic Black	171	57.8
181	195	Air Force * Overseas * E5 to E6 * Hispanic	126	66.3
182	196	Air Force * Overseas * E5 to E6 * Native American	90	69.8
183	197	Air Force * Overseas * E5 to E6 * Asian & Pacific Islander	173	76.5
184	198	Air Force * Overseas * E5 to E6 * Other	26	76.5
185	199	Air Force * Overseas * E7 to E9 * non-Hispanic White	86	70.5
186	200	Air Force * Overseas * E7 to E9 * non-Hispanic Black	63	69.2

Table B-13. (continued)

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
187	201	Air Force * Overseas * E7 to E9 * Hispanic	54	76.1
188	202	Air Force * Overseas * E7 to E9 * Native American	48	67.6
189	203	Air Force * Overseas * E7 to E9 * Asian & Pacific Islander	68	80.0
162	204	Air Force * Overseas * E7 to E9 * Other	6	66.7
190	205	Air Force * Overseas * W1 to O6 * non-Hispanic White	123	74.1
191	206	Air Force * Overseas * W1 to O6 * non-Hispanic Black	117	74.5
192	207	Air Force * Overseas * W1 to O6 * Hispanic	145	78.8
193	208	Air Force * Overseas * W1 to O6 * Native American	22	84.6
194	209	Air Force * Overseas * W1 to O6 * Asian & Pacific Islander	138	75.0
168	210	Air Force * Overseas * W1 to O6 * Other	14	70.0
195	211	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic White	121	35.8
196	212	Coast Guard * US + Overseas * E1 to E3 * non-Hispanic Black	104	33.2
197	213	Coast Guard * US + Overseas * E1 to E3 * Hispanic	170	36.4
198	214	Coast Guard * US + Overseas * E1 to E3 * Native American + Other	81	37.3
199	215	Coast Guard * US + Overseas * E1 to E3 * Asian & Pacific Islander	76	35.3
200	216	Coast Guard * US + Overseas * E4 * non-Hispanic White	169	46.2
201	217	Coast Guard * US + Overseas * E4 * non-Hispanic Black	115	34.2
202	218	Coast Guard * US + Overseas * E4 * Hispanic	177	49.2
203	219	Coast Guard * US + Overseas * E4 * Native American + Other	116	43.9
204	220	Coast Guard * US + Overseas * E4 * Asian & Pacific Islander	67	44.4
205	221	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic White	186	79.8
206	222	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * non-Hispanic Black	158	73.5
207	223	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Hispanic	163	79.1
208	224	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Native American + Other	23	74.2
209	225	Coast Guard * US + Overseas * E5 to E6 + E7 to E9 * Asian & Pacific Islander	146	77.7
210	226	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic White	381	64.5
211	227	Coast Guard * US + Overseas * W1 to O6 * non-Hispanic Black	278	49.7
212	228	Coast Guard * US + Overseas * W1 to O6 * Hispanic	383	61.3
213	229	Coast Guard * US + Overseas * W1 to O6 * Native American + Other	145	64.2
214	230	Coast Guard * US + Overseas * W1 to O6 * Asian & Pacific Islander	132	59.7
215	231	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic White	218	61.6
216	232	AGR/TARS * US + Overseas * E1 to E3 + E4 * non-Hispanic Black	151	51.4
217	233	AGR/TARS * US + Overseas * E1 to E3 + E4 * Hispanic	144	62.6
218	234	AGR/TARS * US + Overseas * E1 to E3 + E4 * Native American	140	68.0
219	235	AGR/TARS * US + Overseas * E1 to E3 + E4 * Asian & Pacific Islander	162	72.3
220	236	AGR/TARS * US + Overseas * E1 to E3 + E4 * Other	16	53.3
221	237	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic White	278	81.8
222	238	AGR/TARS * US + Overseas * E5 to E6 * non-Hispanic Black	85	66.9
223	239	AGR/TARS * US + Overseas * E5 to E6 * Hispanic	103	75.7

Table B-13. (continued)

Variance Estimation Stratum	Stratum Numbers	Stratum Label	Number of Respondents	Observed Response Rate
224	240	AGR/TARS * US + Overseas * E5 to E6 * Native American	141	77.0
225	241	AGR/TARS * US + Overseas * E5 to E6 * Asian & Pacific Islander	97	77.0
220	242	AGR/TARS * US + Overseas * E5 to E6 * Other	15	83.3
226	243	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic White	193	84.6
227	244	AGR/TARS * US + Overseas * E7 to E9 * non-Hispanic Black	154	74.8
228	245	AGR/TARS * US + Overseas * E7 to E9 * Hispanic	227	79.9
229	246	AGR/TARS * US + Overseas * E7 to E9 * Native American	58	84.1
230	247	AGR/TARS * US + Overseas * E7 to E9 * Asian & Pacific Islander	187	81.0
220	248	AGR/TARS * US + Overseas * E7 to E9 * Other	3	60.0
231	249	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic White	20	38.5
232	250	AGR/TARS * US + Overseas * W1 to O6 * non-Hispanic Black	14	30.4
232	251	AGR/TARS * US + Overseas * W1 to O6 * Hispanic	23	40.4
232	252	AGR/TARS * US + Overseas * W1 to O6 * Native American	12	40.0
233	253	AGR/TARS * US + Overseas * W1 to O6 * Asian & Pacific Islander	25	62.5
233	254	AGR/TARS * US + Overseas * W1 to O6 * Other	3	60.0
234	255	Unknown	280	60.5
		Total	43113	55.0

Table B-14.
Response Rates for the EOS Survey, by Stratification Variables

Dimension of Stratification	Level of Stratification	Response Rate[11] Point Estimate	Interval Estimate	
Overall	Overall	54.96	54.35	55.56
Service excluding AGR/TARS	Army	51.74	50.72	52.77
	Navy	53.91	52.59	55.23
	Marine Corps	46.13	44.83	47.42
	Air Force	61.44	60.12	62.76
Service	Coast Guard	58.06	56.13	59.99
Component	Regular Active Duty	54.35	53.73	54.97
	AGR/TARS	69.45	67.26	71.64
	National Guard	74.27	71.22	77.33
	Reserves	64.24	61.00	67.48
Location	US	55.01	54.32	55.71
	Overseas	54.54	53.50	55.58
	Unknown	59.29	54.38	64.20
Paygrade Group	E1-E3	38.04	36.81	39.26
	E4	45.41	44.11	46.71
	E5-E6	57.96	56.63	59.29
	E7-E9	70.60	69.16	72.04
	WO1-W05,O1-O6	75.23	74.10	76.35
	Enlisted Unknown	-	-	-
	Officer Unknown	-	-	-
Race/Ethnicity	Non-Hispanic White	57.49	56.66	58.32
	Non-Hispanic Black	45.87	45.03	46.70
	Hispanic	50.99	50.09	51.89
	Native American	52.94	52.29	53.58
	Asian, Pacific Islander	61.65	60.60	62.70
	Other	55.84	54.22	57.46
	Unknown	65.66	56.53	74.79

[11] response rate = $\frac{\text{eligible respondents + known ineligibles}}{\text{total sample}}$. The interval estimate gives lower and upper endpoints of a 95% confidence interval for the response rate. The response rates for the "Enlisted unknown" and "Officer unknown categories were suppressed because of small sample sizes.

Table B-15.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Total Military, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Total Sample	55.0	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	57.5	72.8	65.7	69.6
Black non-Hispanic	45.9	15.9	22.9	19.1
Hispanic	51.0	5.6	6.6	6.1
Native American	52.9	0.6	0.7	0.7
Asian or Pacific Islander	61.7	3.3	2.5	2.9
Other	55.8	1.5	1.5	1.5
Unknown	65.7	0.2	0.1	0.1
Paygrade Group*				
E1-E3	37.2	16.0	31.8	23.2
E4, enlisted unknown	45.2	16.6	24.3	20.0
E5-E6	57.5	31.7	28.0	30.0
E7-E9	70.4	13.9	7.1	10.8
W1-W5, O1-O6, officer unknown	72.9	21.8	8.8	15.9
Component				
Regular active duty	54.4	94.9	97.3	96.0
Active duty National Guard	74.3	2.8	1.2	2.1
Active duty Reserves	64.2	2.3	1.5	1.9
Location				
US	55.0	83.3	83.1	83.2
Overseas	54.5	16.2	16.5	16.4
Unknown	59.3	0.5	0.4	0.5
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	50.5	49.8	59.5	54.2
Enlisted, high (22.8% - 38.1%)	52.1	28.4	31.8	29.9
Officer, low (0.0% - 8.4%)	75.0	14.7	6.0	10.8
Officer, high (8.4% - 21.0%)	75.7	7.1	2.8	5.2
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	53.4	44.2	47.1	45.5
Enlisted, high (6.5% - 8.5%)	48.4	34.0	44.2	38.6
Officer, low (0.0% - 2.8%)	75.3	13.4	5.4	9.8
Officer, high (2.8% - 7.8%)	75.2	8.4	3.4	6.2
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	51.2	48.9	57.0	52.6
Enlisted, high (33.5% - 53.0%)	51.0	29.2	34.2	31.5
Officer, low (0.0% - 14.8%)	75.0	14.6	5.9	10.7
Officer, high (15.0% - 34.7%)	75.7	7.2	2.8	5.2
Marital Status*				
Single or unknown	50.6	53.3	63.4	57.8
Married	60.9	46.7	36.6	42.2
Deployment status*				
Deployed	48.7	6.7	8.6	7.6
Not deployed	55.5	93.3	91.4	92.4
Level of education*				
Less than high school	39.0	0.5	0.9	0.7
High school graduate	48.2	56.7	74.5	64.7
Some college	61.6	20.1	15.3	17.9
College graduate or higher	74.7	22.7	9.4	16.7
Gender				
Male or unknown	54.8	86.1	86.8	86.5
Female	56.2	13.9	13.2	13.5

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.

Table B-15. (continued)

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Region of the US or World*				
US, Northeast	58.3	4.5	3.9	4.3
US, North Central	58.2	7.1	6.2	6.7
US, South	54.1	45.7	47.4	46.4
US, West	55.4	25.9	25.5	25.7
Europe	55.2	7.4	7.3	7.3
Asia or Pacific Islands	53.6	5.9	6.3	6.1
Other	55.0	3.0	3.0	3.0
Unknown	59.3	0.5	0.4	0.5

Table B-16.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Army, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Army, total	51.7	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	54.2	64.2	58.1	61.3
Black non-Hispanic	45.0	23.5	30.8	27.0
Hispanic	53.3	5.6	5.3	5.5
Native American	52.3	0.6	0.6	0.6
Asian or Pacific Islander	58.4	2.6	2.0	2.3
Other	52.3	3.2	3.1	3.2
Unknown	64.9	-	-	0.2
Paygrade Group*				
E1-E3	33.4	13.3	28.4	20.6
E4, enlisted unknown	41.0	19.5	30.1	24.6
E5-E6	54.9	29.2	25.7	27.5
E7-E9	70.0	14.9	6.8	11.0
W1-W5, O1-O6, officer unknown	73.5	23.2	9.0	16.4
Location*				
US	52.1	78.8	77.7	78.2
Overseas	50.1	20.6	22.0	21.3
Unknown	72.7	0.7	0.3	0.5
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	46.9	45.8	55.7	50.6
Enlisted, high (22.8% - 38.1%)	48.4	30.9	35.3	33.1
Officer, low (0.0% - 8.4%)	73.4	13.7	5.3	9.7
Officer, high (8.4% - 21.0%)	73.5	9.5	3.7	6.7
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	48.8	39.9	45.0	42.4
Enlisted, high (6.5% - 8.5%)	46.2	36.9	46.0	41.3
Officer, low (0.0% - 2.8%)	75.0	13.7	4.9	9.5
Officer, high (2.8% - 7.8%)	71.3	9.5	4.1	6.9
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	46.9	46.9	56.9	51.7
Enlisted, high (33.5% - 53.0%)	48.4	29.9	34.1	31.9
Officer, low (0.0% - 14.8%)	73.3	13.8	5.4	9.7
Officer, high (15.0% - 34.7%)	73.7	9.4	3.6	6.6
Marital Status*				
Single or unknown	46.9	52.0	63.2	57.4
Married	58.3	48.0	36.8	42.6
Deployment status*				
Deployed	47.1	9.8	11.8	10.8
Not deployed	52.3	90.2	88.2	89.2
Level of education*				
Less than high school	32.7	-	-	0.3
High school graduate	45.5	66.6	85.7	75.8
Some college	66.8	8.9	4.7	6.9
College graduate or higher	74.2	24.3	9.1	17.0
Gender				
Male or unknown	51.8	85.9	85.8	85.9
Female	51.5	14.1	14.2	14.1
Region of the US or World*				
US, Northeast	59.7	3.9	2.8	3.4
US, North Central	53.7	5.5	5.1	5.3
US, South	51.3	54.2	55.2	54.7
US, West	52.6	15.2	14.6	14.9
Europe	49.9	13.1	14.0	13.5
Asia or Pacific Islands	49.3	5.8	6.4	6.1
Other	53.7	1.7	1.6	1.6
Unknown	72.7	0.7	0.3	0.5

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.
- indicates small cell size.

Table B-17.
Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Navy, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Navy, Total	53.9	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	56.8	73.1	65.0	69.3
Black non-Hispanic	41.4	13.1	21.7	17.1
Hispanic	49.3	6.7	8.1	7.3
Native American	50.7	0.5	0.6	0.6
Asian or Pacific Islander	62.5	6.0	4.2	5.2
Other	60.8	0.4	0.3	0.4
Unknown	62.2	-	-	0.2
Paygrade Group*				
E1-E3	36.6	17.7	35.9	26.1
E4, enlisted unknown	47.9	15.4	19.7	17.4
E5-E6	56.8	35.9	31.9	34.0
E7-E9	71.6	11.9	5.5	8.9
W1-W5, O1-O6, officer unknown	76.1	19.2	7.0	13.6
Location*				
US	53.2	85.2	87.9	86.4
Overseas	59.4	14.2	11.4	12.9
Unknown	47.9	0.6	0.8	0.7
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	49.4	55.3	66.4	60.4
Enlisted, high (22.8% - 38.1%)	52.9	25.5	26.5	26.0
Officer, low (0.0% - 8.4%)	76.5	14.2	5.1	10.0
Officer, high (8.4% - 21.0%)	75.1	4.9	1.9	3.6
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	54.5	45.3	44.2	44.8
Enlisted, high (6.5% - 8.5%)	46.0	35.5	48.8	41.6
Officer, low (0.0% - 2.8%)	76.6	12.1	4.3	8.5
Officer, high (2.8% - 7.8%)	75.3	7.1	2.7	5.1
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	51.3	49.3	54.7	51.8
Enlisted, high (33.5% - 53.0%)	49.1	31.5	38.2	34.6
Officer, low (0.0% - 14.8%)	76.5	14.2	5.1	10.0
Officer, high (15.0% - 34.7%)	75.0	4.9	1.9	3.6
Marital Status*				
Single or unknown	49.9	58.8	69.0	63.5
Married	60.9	41.2	31.0	36.5
Deployment status*				
Deployed	49.8	9.5	11.2	10.3
Not deployed	54.4	90.5	88.8	89.7
Level of education*				
Less than high school	35.7	1.1	2.4	1.7
High school graduate	50.6	77.5	88.6	82.6
Some college	67.3	3.0	1.7	2.4
College graduate or higher	74.6	18.4	7.4	13.3
Gender				
Male or unknown	54.0	87.1	86.9	87.0
Female	53.5	12.9	13.1	13.0
Region of the US or World*				
US, Northeast	52.8	5.8	6.1	6.0
US, North Central	39.2	3.6	6.6	5.0
US, South	54.2	44.4	43.9	44.2
US, West	54.0	31.4	31.3	31.3
Europe	63.2	3.5	2.4	3.0
Asia or Pacific Islands	58.6	4.8	4.0	4.4
Other	57.9	5.9	5.0	5.5
Unknown	47.9	0.6	0.8	0.7

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.
- indicates small cell size.

Table B-18.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Marine Corps, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Marine Corps, Total	46.1	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	48.5	74.1	67.5	70.5
Black non-Hispanic	38.9	13.3	17.8	15.7
Hispanic	40.6	8.8	11.0	10.0
Native American	42.4	0.8	0.9	0.8
Asian or Pacific Islander	49.1	1.9	1.7	1.8
Other	48.6	1.1	1.0	1.1
Unknown	33.3	-	-	-
Paygrade Group*				
E1-E3	32.6	30.3	53.8	43.0
E4, enlisted unknown	44.9	17.6	18.5	18.1
E5-E6	53.7	24.4	18.0	21.0
E7-E9	64.8	10.7	5.0	7.6
W1-W5, O1-O6, officer unknown	75.5	17.0	4.7	10.4
Locati :n				
US	46.2	83.3	83.1	83.2
Overseas	45.8	16.7	16.9	16.8
Unknown	-	-	-	-
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	43.3	55.7	62.5	59.4
Enlisted, high (22.8% - 38.1%)	41.6	27.3	32.8	30.2
Officer, low (0.0% - 8.4%)	75.1	10.3	2.9	6.3
Officer, high (8.4% - 21.0%)	76.0	6.7	1.8	4.1
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	43.8	40.3	44.2	42.4
Enlisted, high (6.5% - 8.5%)	41.7	42.7	51.1	47.2
Officer, low (0.0% - 2.8%)	77.0	7.5	1.9	4.5
Officer, high (2.8% - 7.8%)	74.3	9.5	2.8	5.9
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	43.3	56.5	63.4	60.2
Enlisted, high (33.5% - 53.0%)	41.6	26.5	31.9	29.4
Officer, low (0.0% - 14.8%)	75.2	10.2	2.9	6.3
Officer, high (15.0% - 34.7%)	75.9	6.8	1.8	4.1
Marital Status				
Single or unknown	42.5	57.2	66.3	62.1
Married	52.1	42.8	33.7	37.9
Deployment status				
Deployed	40.5	4.6	5.7	5.2
Not deployed	46.4	95.4	94.3	94.8
Level of education*				
Less than high school	-	-	-	-
High school graduate	42.7	81.1	93.3	87.7
Some college	59.4	3.0	1.8	2.4
College graduate or higher	73.8	15.7	4.8	9.8
Gender				
Male or unknown	46.4	95.4	94.5	95.0
Female	41.7	4.6	5.5	5.0
Region of the US or World				
US, Northeast	59.8	1.1	0.7	0.9
US, North Central	59.2	1.8	1.1	1.4
US, South	46.7	43.4	42.4	42.9
US, West	44.8	36.9	38.9	38.0
Europe	48.9	0.8	0.8	0.8
Asia or Pacific Islands	47.0	12.7	12.2	12.4
Other	41.1	3.2	3.9	3.5
Unknown	-	-	-	-

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.
- indicates small cell size.

Table B-19.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Air Force, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Air Force, Total	61.4	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	62.5	79.0	75.5	77.7
Black non-Hispanic	55.2	13.2	17.1	14.7
Hispanic	58.5	3.7	4.2	3.9
Native American	60.9	0.5	0.5	0.5
Asian or Pacific Islander	67.3	2.2	1.7	2.0
Other	69.3	1.3	0.9	1.1
Unknown	50.0	-	-	-
Paygrade Group*				
E1-E3	53.0	15.9	22.5	18.4
E4, enlisted unknown	50.1	17.1	27.0	20.9
E5-E6	63.3	31.2	28.8	30.3
E7-E9	68.2	12.0	8.9	10.8
W1-W5, O1-O6, officer unknown	74.8	23.9	12.8	19.6
Location				
US	61.4	82.9	83.1	83.0
Overseas	61.8	16.7	16.4	16.6
Unknown	61.4	0.5	0.5	0.5
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	58.4	48.5	55.2	51.1
Enlisted, high (22.8% - 38.1%)	57.9	27.6	32.0	29.3
Officer, low (0.0% - 8.4%)	74.0	17.4	9.7	14.4
Officer, high (8.4% - 21.0%)	76.8	6.5	3.1	5.2
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	58.6	52.5	59.1	55.1
Enlisted, high (6.5% - 8.5%)	57.2	23.6	28.1	25.3
Officer, low (0.0% - 2.8%)	73.2	16.6	9.7	14.0
Officer, high (2.8% - 7.8%)	78.7	7.2	3.1	5.7
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	58.4	50.1	56.9	52.7
Enlisted, high (33.5% - 53.0%)	57.8	26.1	30.3	27.7
Officer, low (0.0% - 14.8%)	74.1	17.1	9.5	14.2
Officer, high (15.0% - 34.7%)	76.6	6.8	3.3	5.4
Marital Status*				
Single or unknown	59.2	52.0	57.1	54.0
Married	64.1	48.0	42.9	46.0
Deployment status				
Deployed	57.5	2.7	3.2	2.9
Not deployed	61.6	97.3	96.8	97.1
Level of education*				
Less than high school	-	-	-	-
High school graduate	50.0	15.3	24.4	18.8
Some college	60.3	57.8	60.6	58.9
College graduate or higher	74.2	27.0	15.0	22.3
Gender				
Male or unknown	61.0	82.4	84.1	83.0
Female	63.9	17.6	15.9	17.0
Region of the US or World				
US, Northeast	62.0	2.2	2.2	2.2
US, North Central	64.9	11.4	9.8	10.8
US, South	59.5	39.7	43.1	41.0
US, West	62.7	29.6	28.0	29.0
Europe	62.6	9.0	8.6	8.9
Asia or Pacific Islands	60.5	6.4	6.7	6.5
Other	62.4	1.2	1.1	1.2
Unknown	61.4	0.5	0.5	0.5

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.
- indicates small cell size.

Table B-20.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the Coast Guard, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
Coast Guard, Total	58.1	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	59.8	85.5	79.7	83.1
Black non-Hispanic	45.8	5.3	8.7	6.7
Hispanic	52.8	5.2	6.4	5.7
Native American	49.2	1.9	2.8	2.3
Asian or Pacific Islander	54.3	2.1	2.4	2.2
Other	.	-	-	-
Unknown	.	-	-	-
Paygrade Group*				
E1-E3	35.7	11.2	28.0	18.3
E4, enlisted unknown	45.5	14.5	24.2	18.6
E5-E9	62.8	46.1	37.8	42.6
W1-W5, O1-O6, officer unknown	79.5	28.1	10.0	20.5
Location				
US	58.3	91.7	90.8	91.3
Overseas	56.3	8.3	8.9	8.6
Unknown	-	-	-	-
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	50.0	48.4	66.9	56.1
Enlisted, high (22.8% - 38.1%)	58.5	23.6	23.1	23.4
Officer, low (0.0% - 8.4%)	78.8	26.2	9.7	19.3
Officer, high (8.4% - 21.0%)	91.0	1.9	-	1.2
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	59.9	35.5	32.9	34.4
Enlisted, high (6.5% - 8.5%)	46.9	36.4	57.1	45.1
Officer, low (0.0% - 2.8%)	79.0	9.5	3.5	7.0
Officer , high (2.8% - 7.8%)	79.8	18.6	6.5	13.5
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	50.9	42.7	57.0	48.7
Enlisted, high (33.5% - 53.0%)	55.1	29.3	33.0	30.8
Officer, low (0.0% - 14.8%)	78.8	26.2	9.7	19.3
Officer, high (15.0% - 34.7%)	91.0	1.9	-	1.2
Marital Status*				
Single or unknown	50.0	45.7	63.2	53.1
Married	67.1	54.3	36.8	46.9
Deployment status				
Deployed	55.0	5.6	6.3	5.9
Not deployed	58.3	94.4	93.7	94.1
Level of education*				
Less than high school	62.0	1.5	1.3	1.4
High school graduate	53.5	73.0	87.8	79.2
Some college	75.9	2.8	1.2	2.2
College graduate or higher	76.4	22.7	9.7	17.2
Gender				
Male or unknown	58.2	90.9	90.6	90.8
Female	57.2	9.1	9.4	9.2
Region of the US or World*				
US, Northeast	54.7	19.0	21.8	20.2
US, North Central	66.1	9.1	6.5	8.0
US, South	60.1	39.2	36.1	37.9
US, West	56.1	24.4	26.4	25.3
Europe	-	-	-	-
Asia or Pacific Islands	37.4	-	-	-
Other	56.6	7.7	8.2	7.9
Unknown	-	-	-	-

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level.

- indicates small cell size.

Table B-21.

Response Rates and Percentage Distribution of EOS Respondents, Nonrespondents, and Total Population for the AGR/TARs, by Demographic Characteristics

Characteristics	Response Rate	Percentage Distribution		
		Respondents	Nonrespondents	Total Population
AGR/TARS, Total	69.5	100.0	100.0	100.0
Race/Ethnicity*				
White non-Hispanic	71.7	80.2	71.8	77.7
Black non-Hispanic	55.7	10.4	18.8	13.0
Hispanic	66.1	5.1	5.9	5.3
Native American	71.8	0.8	0.7	0.8
Asian or Pacific Islander	75.1	2.3	1.7	2.1
Other	61.1	0.6	-	0.7
Unknown	92.9	-	-	-
Paygrade Group*				
E1-E4, enlisted unknown	38.1	3.2	12.0	5.9
E5-E6	60.1	37.9	57.3	43.8
E7-E9	79.9	36.7	21.0	31.9
W1-W5, O1-O6, officer unknown	83.8	22.1	9.8	18.4
Component*				
Active duty National Guard	74.3	55.5	43.7	51.9
Active duty Reserves	64.2	44.5	56.3	48.1
Location*				
US	70.1	97.3	94.1	96.3
Overseas	50.8	2.3	5.1	3.2
Black Occupation Density*				
Enlisted, low (2.4% - 22.3%)	65.1	41.4	50.3	44.1
Enlisted, high (22.8% - 38.1%)	67.5	36.5	39.9	37.5
Officer, low (0.0% - 8.4%)	82.7	10.9	5.2	9.2
Officer, high (8.4%-21.0%)	84.8	11.2	4.6	9.2
Hispanic Occupation Density*				
Enlisted, low (3.0% - 6.3%)	66.7	29.2	33.1	30.4
Enlisted, high (6.5% - 8.5%)	65.9	48.7	57.1	51.2
Officer, low (0.0% - 2.8%)	83.7	13.3	5.9	11.0
Officer , high (2.8% - 7.8%)	83.8	8.9	3.9	7.4
Minority occupation density*				
Enlisted, low (8.1% - 33.2%)	65.1	42.1	51.2	44.9
Enlisted, high (33.5% - 53.0%)	67.6	35.8	39.0	36.8
Officer, low (0.0% - 14.8%)	82.8	10.9	5.2	9.2
Officer, high (15.0% - 34.7%)	84.7	11.2	4.6	9.2
Marital Status*				
Single or unknown	64.0	35.1	44.9	38.1
Married	72.8	64.9	55.1	61.9
Deployment status				
Deployed	-	-	-	-
Not deployed	69.6	99.6	98.7	99.3
Level of education*				
Less than high school	62.0	1.4	-	1.5
High school graduate	64.7	66.0	81.7	70.8
Some college	78.5	7.6	4.7	6.7
College graduate or higher	83.0	25.0	11.6	20.9
Gender				
Male or unknown	70.3	84.1	80.7	83.0
Female	65.2	15.9	19.3	17.0
Region of the US or World*				
US, Northeast	71.5	13.5	12.2	13.1
US, North Central	76.8	19.9	13.6	18.0
US, South	65.3	42.6	51.5	45.3
US, West	74.3	21.3	16.8	20.0
Europe	-	-	-	-
Asia or Pacific Islands	-	-	-	-
Other	51.2	2.3	5.1	3.2

* indicates distributions of respondents and nonrespondents are significantly different at the 5% level

- indicates small cell size.

Appendix C

Taylor Series Linearizations For Two Variable Functions

The Taylor series expansion for a function of two variables $f(x,y)$ about the values $x = a$ and $y = b$ is given by,

$$f(x,y) = f(a,b) + \left((x-a)\frac{\partial f(x,y)}{\partial x}\bigg|_{x=a} + (y-b)\frac{\partial f(x,y)}{\partial y}\bigg|_{y=b} \right)$$

$$+\frac{1}{2!}\left((x-a)^2\frac{\partial^2 f(x,y)}{\partial x^2}\bigg|_{x=a} + (y-b)^2\frac{\partial^2 f(x,y)}{\partial y^2}\bigg|_{y=b} + (x-a)(y-b)\frac{\partial f(x,y)}{\partial x \partial y}\bigg|_{x=a,y=b} \right)$$

$$+ \cdots$$

$$\approx f(x,y) = f(a,b) + \left((x-a)\frac{\partial f(x,y)}{\partial x}\bigg|_{x=a} + (y-b)\frac{\partial f(x,y)}{\partial y}\bigg|_{y=b} \right).$$

The variance of $f(x,y)$ is,

$$Var\{f(x,y)\} = E\{f(x,y)^2\} - (E\{f(x,y)\})^2$$

$$\approx E\left\{ \left(f(a,b) + \left((x-a)\frac{\partial f(x,y)}{\partial x}\bigg|_{x=a} + (y-b)\frac{\partial f(x,y)}{\partial y}\bigg|_{y=b} \right) \right)^2 \right\}$$

$$-\left(E\left\{ f(a,b) + \left((x-a)\frac{\partial f(x,y)}{\partial x}\bigg|_{x=a} + (y-b)\frac{\partial f(x,y)}{\partial y}\bigg|_{y=b} \right) \right\} \right)^2.$$

Define $E\{x\} = a$ and $E\{y\} = b$. Then the above approximate variance becomes,

$$Var\{f(x,y)\} \approx E\left\{ (x-a)^2 \left(\frac{\partial f(x,y)}{\partial x}\bigg|_{x=a} \right)^2 \right\} + E\left\{ (y-b)^2 \left(\frac{\partial f(x,y)}{\partial y}\bigg|_{y=b} \right)^2 \right\}$$

$$+2E\left\{(x-a)(y-b)\left(\left.\frac{\partial f(x,y)}{\partial x}\right|_{x=a}\right)\left(\left.\frac{\partial f(x,y)}{\partial y}\right|_{y=b}\right)\right\}$$

$$= Var\{x\}\left(\left.\frac{\partial f(x,y)}{\partial x}\right|_{x=a}\right)^2 + Var\{y\}\left(\left.\frac{\partial f(x,y)}{\partial y}\right|_{y=b}\right)^2$$

$$+2Cov\{x,y\}\left(\left.\frac{\partial f(x,y)}{\partial x}\right|_{x=a}\right)\left(\left.\frac{\partial f(x,y)}{\partial y}\right|_{y=b}\right).$$

For example, if $f(x,y)=\frac{x}{y}$ as in a ratio estimate, then the Taylor series approximation is given by,

$$Var\{f(x,y)\} \approx \frac{1}{b^2}\left(Var\{x\} + \left(\frac{a}{b}\right)^2 Var\{y\} - 2\frac{a}{b}Cov\{x,y\}\right).$$

The same variance approximation can be obtained by defining the linearized variable, $z = x - \frac{a}{b}y$. The variance of z is,

$$Var\{z\} = E\left\{\left(x-\frac{a}{b}y\right) - E\left\{x-\frac{a}{b}y\right\}\right\}^2$$

$$= E\left\{(x-a)-\frac{a}{b}(y-b)\right\}^2$$

$$= Var\{x\} + \left(\frac{a}{b}\right)^2 Var\{y\} - 2\frac{a}{b}Cov\{x,y\}.$$

Note that this variance is b^2 times the Taylor series approximation given above. That is

$$Var\left\{\frac{x}{y}\right\} = \frac{1}{b^2}Var\{z\}.$$

Appendix D

Derivation of Initial Lagrange Multiplier Values for a Stratified Random Sampling Design

Derivation

For a single variance constraint, given a stratified random sampling design, interest lies in minimizing the objective function

$$o(n_h, \lambda) = \sum_h n_h \overline{C}_h + \lambda \sum_h \left(\frac{N_h}{N}\right)^2 \frac{P_h(1-P_h)}{n_h} - K,$$

where the h-subscript denotes the design strata and,

n_h = the unknown sample size to be selected from the h-th stratum,

λ = a generalized Lagrange multiplier,

N_h / N = the relative size of the h-th stratum in the population,

$P_h(1-P_h)$ = the population variance of a defined proportion in the h-th stratum,

K = the variance constraint placed on the sample estimate of P_h.

The objective function as written above ignores the finite population correction (as though the sample were selected with replacement).

Taking derivatives of the objective function with respect to the unknown sample sizes n_h yields equations of the form

$$\frac{\partial(o(n_h, \lambda))}{\partial(n_h)} = \overline{C}_h + \lambda \frac{\left(\frac{N_h}{N}\right)^2 P_h(1-P_h)}{-n_h^2}.$$

Setting these equations to zero and solving for n_h yields the solutions,

$$n_h = \sqrt{\lambda} \frac{N_h}{N} \sqrt{P_h(1-P_h)} / \sqrt{\overline{C}_h}. \qquad \text{(D-1)}$$

For the one-constraint case, the allocation solutions can also be obtained explicitly. Cochran (1963) on pages 95-96 solves for the values

$$\frac{n_h}{n} = \frac{\frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h}}{\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h}}$$

and

$$n = \frac{\left(\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}\sqrt{\bar{C}_h}\right)\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h}}{K},$$

(again ignoring the finite population effect). Combining these two results gives the explicit solution

$$n_h = \frac{\frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h}\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}\sqrt{\bar{C}_h}}{K}. \qquad \text{(D-2)}$$

Then from Equations (1) and (2) we have

$$\sqrt{\lambda}\frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h} = \frac{\frac{N_h}{N}\sqrt{P_h(1-P_h)}/\sqrt{\bar{C}_h}\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}\sqrt{\bar{C}_h}}{K}$$

from which

$$\sqrt{\lambda} = \frac{\sum_h \frac{N_h}{N}\sqrt{P_h(1-P_h)}\sqrt{\bar{C}_h}}{K}. \qquad \text{(D-3)}$$

Some Observations

The initial Lagrange multiplier value (Equation (D-3)) receives a contribution from each stratum that has a value $P_h > 0$. The largest strata, those with a P_h-value approaching 0.50 and those with the largest per unit average cost, contribute more to the λ-value than do small strata with P_h-values approaching zero or one and small per unit costs. However, the stratum sizes and per unit costs do not depend on the domain, such that differences among initial λ-values depend only on the values P_h and K.

Thus, the largest λ-values starting out will belong to those domains for which P_h approaches 0.5 and for which K is smallest. Note that K is itself a variance having a value less than one for binomial proportions for any reasonable constraint. Because K appears in the denominator, the smaller values will produce the larger λ-values. So, in summary, the largest

initial Lagrange multipliers will be those that correspond to the largest population proportions (up to a maximum of 0.50) if these proportions also have the more restrictive constraints imposed on them.

Appendix E

Estimation Procedures

Procedures for estimating population totals, means, proportions, and regression relations and their associated variances are presented in this section. The estimation procedures are derived from the sampling design described in the Sampling Design section of this report. Modifications made to the design-based estimation procedures to compensate for missing data are presented in a subsequent section. The procedures described in this appendix are implemented in the SUDAAN® software package (Shah, et al., 1996). Appendix A of this report gives instructions for the use of SUDAAN® with the *EOS* data.

The sampling design described earlier provides unbiased estimates of parameters estimated by linear statistics and their associated variances. Given the design, examples of parameters estimated by linear statistics include population totals, means and proportions, and some subpopulation or domain means and proportions. Other subpopulation or domain means and proportions are estimated by non-linear statistics. The distinction is based on whether the denominators of the domain means and proportions are known, or are unknown and need to be estimated from the sample.

For example, consider the proportion of eligible, non-Hispanic Blacks who report having experienced one or more incidents of racial/ethnic harassment or discrimination. If all persons were eligible for the survey, the denominator (the total number of non-Hispanic Blacks in the population) would be a known quantity. The numerator, the total number of non-Hispanic Blacks who report having experienced racial/ethnic harassment or discrimination, is estimated from the sample. The proportion is therefore estimated by a linear statistic. In contrast, consider a similar proportion defined for some domain of non-Hispanic Blacks identified by individual responses to one or more questionnaire items, say the proportion of non-Hispanic Blacks who experienced racial/ethnic harassment or discrimination who did not report it to authorities. In this case the denominator total, the number of non-Hispanic Blacks in the population who experienced racial/ethnic harassment or discrimination, is unknown and must be estimated from the sample along with the numerator. The estimator as a result is a non-linear statistic (i.e., a ratio of random variables).

In the case of regression relations, both the *dependent* or *criterion* variables and the *independent* or *explanatory* variables are obtained from the sample. Thus, in general, regression coefficients in a finite population context are estimated by non-linear statistics. An example of a regression relation might be the association between the average number of reported incidents and the age and rank of the individuals.

The design-based estimation procedures are described in the following subsections with separate subsections for linear, ratio, and regression estimates. Each subsection begins with the definition of the relevant parameters. The definitions are followed by a description of the procedure for estimating the parameters and their sampling variances. Notation is developed as needed in the context of the presentation.

Linear Statistics and Associated Variances

Definitions

Units in the population (i.e., persons in the active-duty military) are identified by the subscript $g = 1, 2, \ldots, N$, the population being comprised of a total of N units. Response variable values are typically questionnaire items or items of information about individuals available in the source information used to construct the sampling frame; response variable values associated with the g-th unit in the population are denoted using $\{x_g, y_g, \ldots, z_g\}$.

The population total of the response variables y_g is defined as the quantity

$$T_y = \sum_{g=1}^{N} y_g \ ,$$

and the population mean or average as the quantity

$$A_y = \frac{1}{N} \sum_{g=1}^{N} y_g \ .$$

Sample estimates of these quantities are denoted by $\hat{T}_y$ and $\hat{A}_y$.

Domain totals and domain means are defined by the quantities,

$$T_y = \sum_{g=1}^{N} \delta_{d,g} y_g \ ,$$

$$A_{d,y} = \frac{T_{d,y}}{N_d} \ , \qquad \text{(E-1)}$$

where the subscript, d, denotes a particular domain of interest, and,

$\delta_{d,g} = 1$, if the g-th unit in the population belongs to the d-th domain,

$= 0$, otherwise.

For example, the d-subscript might identify non-Hispanic Blacks, implying $\delta_{d,g} = 1$ if the person identified by the g-subscript is non-Hispanic Black and zero otherwise. If the response variable value y_g is the number of incidents reported by the g-th individual, then the sum of the products $\delta_{d,g} \times y_g$ is the total number of incidents reported by non-Hispanic Blacks.

In particular, if $y_g = 1$ for all values of the g-subscript, then the sum of the products $\delta_{d,g} \times y_g$ is the number of individuals that belong to the d-th domain, denoted by N_d. Continuing the example in the previous paragraph, N_d is the total number of non-Hispanic Blacks in the military.

Also y_g may be categorical, implying $y_g = 1$ if the g-th unit in the population possesses some attribute of interest, and $y_g = 0$ otherwise. In this case, Equation E-1 defines a proportion which can be denoted using

$$P_{d,y} = \frac{N_{d,y}}{N_d}$$

to distinguish it from a domain mean $A_{d,y}$. Continuing the example, define $y_g = 1$ if the g-th unit in the population reports at least one incident of racial/ethnic harassment or discrimination. Then the sum of the products $\delta_{d,g} \times y_g$ is the number of non-Hispanic Blacks who report at least one incident, providing the numerator of the proportion, $P_{d,y}$.

Estimation

In what follows, strata are denoted by the subscript $h = 1, 2, \ldots, H$, where $H = 255$.

An estimated total is computed as the sum of the estimated stratum-level totals. Notationally,

$$\hat{T}_{d,y} = \sum_h \hat{T}_{d,y,h} \,. \tag{E-2}$$

For this survey, sample individuals from the same stratum were selected with equal probability, implying that the stratum-level estimates are the quantities

$$\hat{T}_{d,y,h} = \frac{N_h}{n_h} \sum_{i=1}^{n_h} \delta_{d,h,i}\, y_{h,i} = \frac{N_h}{n_h}\, t_{d,y,h} \,. \tag{E-3}$$

In this expression, the individuals selected into the sample are identified using the subscript $i = 1, 2, \ldots, n_h$, where n_h is the sample size for the h-th stratum. N_h is the total number of individuals classified into the h-th stratum (i.e., the stratum size). The quotients $N_h \div n_h$ are the sampling weights for individuals classified into the h-th stratum. Finally, the sample total,

$$t_{d,y,h} = \sum_{i=1}^{n_h} \delta_{d,h,i}\, y_{h,i} \,,$$

is the sum of the response variable values over the sampled individuals in the stratum who are members of the domain. The n_h and N_h values are listed in Table B-6 in Appendix B.

Because the samples were selected independently from each stratum, the stratum-level variances are additive. Hence, from Equation E-2,

$$Var\{\hat{T}_{d,y}\} = Var\left\{\sum_h \hat{T}_{d,y,h}\right\} = \sum_h Var\{\hat{T}_{d,y,h}\}.$$

Because the samples were selected with equal probability and without replacement given the stratum, we have for the estimated variance of the estimated stratum totals given in Equation E-3,

$$\hat{Var}\left\{\hat{T}_{d,y,h}\right\} = \hat{Var}\left\{\frac{N_h}{n_h}\sum_{i=1}^{n_h}\delta_{d,h,i}\,y_{h,i}\right\} = \frac{N_h(N_h-n_h)}{n_h(n_h-1)}\left(\sum_{i=1}^{n_h}\delta_{d,h,i}\,y_{h,i}^2 - \frac{t_{d,y,h}^2}{n_h}\right). \quad \text{(E-4)}$$

The derivations of the above equations can be found in most sampling texts. Equation E-4 can be found in Cochran (1977), Section 5A.14, page 143, except that he uses a *j*-subscript to denote a domain of interest and the symbol, $y_{h,i,j}$, in place of the product, $\delta_{d,h,i} \times y_{h,i}$.

Given that the denominator quantity is known, then an estimated domain mean is simply

$$\hat{A}_{d,y} = \frac{1}{N_d}\hat{T}_{d,y},$$

with the associated variance estimate,

$$\hat{Var}\{\hat{A}_{d,y}\} = \left(\frac{1}{N_d}\right)^2 \hat{Var}\{\hat{T}_{d,y}\}.$$

An alternate form of Equation E-4 simplifies the presentation of the variance estimates for non-linear statistics presented in the next two subsections. Equation E-4 uses the person-level quantities $\delta_{d,h,i} \times y_{h,i}$ to compute the variance estimate. Alternately, the variances can be computed using the person-level quantities,

$$\hat{T}_{d,y,h,i} = \frac{N_h}{n_h}\delta_{d,h,i}\,y_{h,i}. \quad \text{(E-5)}$$

These quantities can be thought of as the person-level contributions to the estimated population total for the *h*-th stratum which can be equivalently rewritten as,

$$\hat{T}_{d,y,h} = \sum_{i=1}^{n_h}\hat{T}_{d,y,h,i} \quad \text{(E-6)}$$

(see Equation E-3).

The alternate form of the stratum-level variance replaces the term in parentheses in Equation E-4 with the sum of the squared differences between the person-level contributions in Equation E-5 and their average (i.e., the estimated stratum total) in Equation E-6. Note that the

sum in question is $(N_h \div n_h)^2$ times the term it replaces. Hence, the alternate form of the variance is,

$$\hat{Var}\left\{\hat{T}_{d,y,h}\right\} = \left(\frac{N_h - n_h}{N_h}\right)\left(\frac{n_h}{n_h - 1}\right)\sum_{i=1}^{n_h}\left(\hat{T}_{d,y,h,i} - \hat{T}_{d,y,h}\right)^2 . \qquad \text{(E-7)}$$

Equation E-7 rather than Equation E-4 is used in the following discussion.

Ratio Estimates and Associated Variances

Definitions

If both the numerator and denominator quantities are estimates, that is, if

$$\hat{A}_{d,y} = \frac{\hat{T}_{d,y}}{\hat{N}_d} , \qquad \text{(E-8)}$$

then, because both the numerator and denominator are random variables, the estimator is a non-linear statistic. Non-linear statistics in general are not unbiased and variance estimates are not available in closed form (i.e., they can only be approximated by success approximations).

The bias potential depends on the variability associated with the denominator total. If a large number of observations is available for estimating the denominator, the bias potential can usually be safely ignored. Cochran (1977, page 166) suggests that the bias properties of a combined ratio estimate relative to their standard errors are negligible provided that the coefficient of variation of the denominator per unit mean[12] is less than 10 percent. However, for narrowly defined domains with samples disproportionately allocated to a large number of strata, the standard error of the denominator can be quite large. In selecting ratio quantities for reporting purposes, the variance of the denominator estimate should be routinely assessed, particularly when the denominator total is estimated using information from strata that receive a relatively small sample allocation. Under most circumstances a denominator degrees of freedom of 30 is considered sufficiently large.

Variance approximations for non-linear statistics are typically based on Taylor series linearizations or on re-sampling (pseudo-randomization) procedures such as those based on random groups. Wolter (1985) describes in detail most, if not all, of the procedures commonly used. We recommend using first order Taylor series linearizations as described in Appendix A (see also Wolter, 1985, Chapter 6).

---

[12] Note that Equation E-8 can be equivalently written as

$$\hat{A}_{d,y} = \frac{\hat{T}_{d,y} / N}{\hat{N}_d / N} .$$

Cochran's result is stated in terms of the standard error of $\hat{N}_d / N$ and the coefficient of variation of the corresponding population parameter.

Estimation

The unknown denominator total N_d is estimated using the equations for population totals described in the previous section by setting $y_{h,i} = 1$ for all values of the *h*- and *i*-subscripts. That is

$$\hat{N}_d = \sum_h \hat{N}_{d,h} = \sum_h \frac{N_h}{n_h} \sum_{i=1}^{n_h} \delta_{d,h,i} = \sum_h \frac{N_h}{n_h} n_{d,h} \ , \tag{E-9}$$

is computed and used in Equation E-8. Equation E-9 can be equivalently written as

$$\hat{N}_d = \sum_h \sum_{i=1}^{n_h} \frac{N_h}{n_h} \delta_{d,h,i} \ ,$$

which provides a more direct interpretation of the estimate $\hat{N}_d$ as the sum of the sampling weights over all of the individuals that belong to the domain. For example, the sum of the sampling weights of persons who report that they plan to remain in the Service is the sample estimate of the total persons planning this action.

Equation E-9 itself defines a linear statistic. The non-linearity problem arises in association with using the estimate $\hat{N}_d$ in the denominator of the estimated population mean $\hat{A}_{d,y}$ as described in Equation E-8. The approximate variance of the estimate given in Equation E-8 is obtained by first computing the linearized variables[13],

$$z_{d,h,i} = \delta_{d,h,i} \left(y_{h,i} - \hat{A}_{d,y} \right)$$

and using these in place of the products $\delta_{d,h,i} \times y_{h,i}$ in Equation E-5 to compute the variances $\hat{Var}\left\{ \hat{T}_{d,z,h} \right\}$. That is, first compute the variances,

$$\hat{Var}\left\{ \hat{T}_{d,z,h} \right\} = \left(\frac{N_h - n_h}{N_h} \right) \left(\frac{n_h}{n_h - 1} \right) \sum_{i=1}^{n_h} \left(\hat{T}_{d,z,h,i} - \hat{T}_{d,z,h} \right)^2 \ , \tag{E-10}$$

where,

$$\hat{T}_{d,z,h,i} = \frac{N_h}{n_h} z_{d,h,i} \ ,$$

$$\hat{T}_{d,z,h} = \frac{1}{n_h} \sum_{i=1}^{n_h} \hat{T}_{d,z,h,i} \ .$$

---

[13] The development of the linearized variable is described in Appendix C.

Equation E-10 is not, however, the variance sought (which is the variance of the domain mean), rather an intermediate step in the calculations. To complete the calculation the variances of the linearized variables are summed over the strata and divided by the square of the estimated denominator quantity. Notationally,

$$\hat{Var}\left\{\hat{A}_{d,y}\right\} \approx \left(\frac{1}{\hat{N}_d}\right)^2 \sum_h \hat{Var}\left\{\hat{T}_{d,z,h}\right\}. \qquad \text{(E-11)}$$

Regression Relations

Definitions

Estimates of regression coefficients and their associated variance-covariance matrix are obtained using a multivariate extension of the estimators described in the previous section. In a finite population context, a regression analysis assesses the ability of p-element vectors of response variable values, denoted by $\underline{x}_g$, to explain the values of another set of response variable values, denoted by y_g. In the notation used here, an underlined lower case letter (e.g., $\underline{x}_g$) denotes a vector, and a lower case letter with no underline (e.g., y_g) denotes a scalar. As previously, the g-subscript denotes individuals in the population. There is no inherent difference between the response variable values that are chosen to comprise the vectors of explanatory variables, $\underline{x}_g$, and those designated as the criterion variables, y_g. Both arise coincidentally in association with the g-th individual in the population. The distinction arises merely in the context of a given analysis.

For example, the association between incidents of unwanted racial/ethnic attention and other factors can be expressed using a regression relation. The survey data provide observations of the number of incidents, y_g, and the other factors $\underline{x}_g$ for those values of the g-subscript selected into the sample. Both the y_g and the $\underline{x}_g$ values are random variables subject to the same sources of variation. Hence the problem of estimating the regression coefficients and their associated variance-covariance matrix is a non-linear problem. The situation is contrasted with that occurring in experimental situations where the $\underline{x}_g$ values are typically fixed by the investigator and the estimated regression coefficients are linear statistics.

In a finite population context, regression coefficients can be defined as follows. Consider the function of observation variables defined by

$$\theta_g = y_g - \sum_{l=1}^{p} x_{g,l}\,\beta_l, \qquad g = 1, 2, \ldots, N.$$

The population mean and variance of the function θ_g are, by definition, the quantities

$$A_\theta = \frac{1}{N}\sum_{g=1}^{N} \theta_g = A_y - \sum_{l=1}^{p} A_{x,l}\beta_l,$$

$$V_\theta = \frac{1}{N}\sum_{g=1}^{N}\left(\theta_g - A_\theta\right)^2 = \frac{1}{N}\sum_{g=1}^{N}\left(\left(y_g - \sum_{l=1}^{p} x_{g,l}\,\beta_l\right) - \left(A_y - \sum_{l=1}^{p} A_{x_l}\,\beta_l\right)\right)^2 . \qquad \text{(E-12)}$$

Equation E-12 holds for any choice of the regression coefficients β_l. Reasonable choices are those values of β_l that minimize the variance V_θ. With this choice, the regression coefficients are defined at population levels so as to minimize the ordinary least squares criterion. That is,

$$\underline{\beta} = V_{\underline{x}'\underline{x}}^{-1}\, V_{\underline{x}'y} . \qquad \text{(E-13)}$$

In this expression, $\underline{\beta}$ is a column vector with p elements. $V_{\underline{x}'\underline{x}}^{-1}$ is the inverse of a $p \times p$ square matrix with diagonal elements

$$V_{x_l x_l} = \frac{1}{N}\sum_{g=1}^{N}\left(x_{g,l} - A_{x_l}\right)^2 ,$$

which are the population variances of the explanatory variables, and off-diagonal elements

$$V_{x_l x_{l'}} = \frac{1}{N}\sum_{g=1}^{N}\left(x_{g,l} - A_{x_l}\right)\left(x_{g,l'} - A_{x_{l'}}\right), \qquad l \neq l' ,$$

which are the explanatory variable covariances. $V_{\underline{x}'y}$ is a p-element column vector containing the covariances between the criterion variable and the explanatory variables. That is,

$$V_{x_l y} = \frac{1}{N}\sum_{g=1}^{N}\left(x_{g,l} - A_{x_l}\right)\left(y_g - A_y\right) .$$

Sarndal, Swensson, & Wretman (1992, Section 13.2, page 486) follow a similar development in defining regression coefficients in the context of finite populations.

Estimation

As in the example in the previous section dealing with ratio estimates and associated variances, the variance-covariance matrix $V_{\underline{x}'\underline{x}}^{-1}$ forms a multivariate denominator total to be estimated using the sample data. The numerator total is the vector quantity $V_{\underline{x}'y}$. First, the unit-level quantities $\underline{x}_g'\,\underline{x}_g$ and $\underline{x}_g'\,y_g$ are computed for the units in the sample. Then these are weighted and added over the strata. Domain specific regressions are computed by applying the domain indicator variables as in the previous subsections. Notationally, the estimate is

$$\hat{V}_{\underline{x}'\underline{x}} = \sum_h \frac{N_h}{n_h}\sum_{i=1}^{n_h}\delta_{d,h,i}\,\underline{x}_{h,i}'\,\underline{x}_{h,i} .$$

The inverse of the matrix, $\hat{V}_{\underline{x}'\underline{x}}^{-1}$, is computed using standard procedures. Similarly, the numerator quantity is estimated by

$$\hat{V}_{\underline{x}'y} = \sum_h \frac{N_h}{n_h} \sum_{i=1}^{n_h} \delta_{d,h,i}\, \underline{x}'_{h,i}\, y_{h,i} \quad .$$

The estimated regression coefficients are then computed by pre-multiplying the numerator vector by the inverse matrix.

The Taylor series linearized variables[14] used to compute the variance-covariance matrix of the regression coefficients, are defined by the p-element column vectors,

$$\underline{z}_{d,h,i} = \delta_{d,h,i}\, \underline{x}'_{h,i}(y_{h,i} - \underline{x}_{h,i}\,\underline{\beta}) \quad .$$

Each observation contributes the amount

$$\hat{\underline{T}}_{d,\underline{z},h,i} = \frac{N_h}{n_h} \underline{z}_{d,h,i}$$

to the estimated total for the h-th stratum which, as in Equation E-6, can be written as the average of the individual contributions. That is,

$$\hat{\underline{T}}_{d,\underline{z},h} = \frac{1}{n_h} \sum_{i=1}^{n_h} \hat{\underline{T}}_{d,\underline{z},h,i} \quad .$$

To form the variance-covariance matrix of the (p-element vector) stratum totals, take the difference between the observation-level contributions to the stratum totals and the stratum total, and then post-multiply by its transpose. Then sum the resulting matrices over the set of observations. That is,

$$\hat{Var}\left\{\hat{\underline{T}}_{d,\underline{z},h}\right\} = \left(\frac{N_h - n_h}{N_h}\right)\left(\frac{n_h}{n_h - 1}\right) \sum_{i=1}^{n_h} \left[\hat{\underline{T}}_{d,\underline{z},h,i} - \hat{\underline{T}}_{d,\underline{z},h}\right]\left[\hat{\underline{T}}_{d,\underline{z},h,i} - \hat{\underline{T}}_{d,\underline{z},h}\right]' \qquad \text{(E-14)}$$

Equation E-14 replaces Equation E-10. As is the case with Equation E-10, Equation E-14 is an intermediate result. The variance-covariance matrix of the regression coefficients is computed by summing the matrices in Equation E-14 over the design strata and pre- and post-multiplying the sum by the inverse matrix $\hat{V}_{\underline{x}'\underline{x}}^{-1}$. That is,

$$\hat{Var}\left\{\hat{\underline{\beta}}\right\} = \hat{V}_{\underline{x}'\underline{x}}^{-1} \sum_h \hat{Var}\left\{\hat{\underline{T}}_{d,\underline{z},h}\right\} \hat{V}_{\underline{x}'\underline{x}}^{-1} \quad .$$

[14] The linearized variable in the regression context is a multivariate extension of the two-variable case presented in Appendix C.

Reference is made to Sarndal et al. (1992), Section 5.10.2, pages 192 through 197 for a similar development. Sarndal and colleagues credit Folsom (1974) as being "... among the first to present results similar ..." to these.

Appendix F

Variables Contained on the Sampling and Weighting Files for the 1996 *EOS*

This appendix provides a description of the variables contained in files provided to DMDC to document the sampling and weighting. This appendix also gives the SAS code used for creating variables on these files.

Detailed information is first provided for a set of key variables for respondents. Two types of respondent records were included on this file, data collected from ineligible study subjects (ineligibles) and data collected from eligible study subjects (eligibles). Both the eligibles and ineligibles are categorized as respondents since the eligibility status for the study was determined. Records for the study nonrespondents are also captured on this file. Less detailed information is then provided for the full set of variables provided to DMDC.

Key Variables

The variable information is displayed using the following format:

Variable:	variable name
Length:	size of the variable
Label:	variable label
Values:	values of the variable
Description:	description of the variable

The variable name (*Variable*) is the name of the variable on the data set. The size of the variable (*Length*) includes the variable length and the type of variable, such as numeric or alphanumeric. Alphanumeric variables can be identified by an "A" before the variable length. The variable label (*Label*) is an expanded version of the 40 character variable label contained on the SAS data set. The section containing the values of the variable (*Values*) includes either a frequency distribution for the categorical variables or a range of values for the continuous variables. Finally, the description of the variable (*Description*) contains information such as the origin of the variable.

Variable: ANL_WT

Length: 8

Label: Analysis Weight

Values: ANL_WT is a continuous variable with the following distribution:

Maximum	579.45
Median	11.06
Minimum	1.06

Description: Sampling weights are calculated as the inverse probability of selection for each sample member. Adjustments are applied to the sampling weights to account for the study nonrespondents. Post-stratification adjustments are further applied to the weights to create the final analysis weights (ANL_WT). By summing the sampling weights for a particular domain, such as Males, an estimate of the total number of Males is calculated. Due to subject nonresponse and fluctuations in the weights, this estimate of the total differed from the total calculated from the sampling frame. The post-stratification adjustments scale the sampling weights so that the sum closely matches the sampling frame total.

See the Missing Data Compensation procedures section and Appendix E for recommended uses of the variable during analysis.

Variable: DMDC_ID

Length: 4

Label: Unique Subject Identification Number

Values: DMDC_ID is a continuous variable with the following distribution:

Maximum	76751
Median	40349
Minimum	00004

Description: Unique numeric identifier used to distinguish responses from one sample member from those responses from another sample member.

Variable: ELIGFLGW

Length: 3

Label: Eligibility Indicator

Values: ELIGFLGW is a categorical variable with the following distribution:

Levels	Frequency	Percent
0 = Ineligible Subjects	3,258	7.6%
1 = Eligible Subjects	39,855	92.4%
	43,113	

Description: Sample members were classified as eligible or ineligible based on information such as administrative records and self-report records (see INELCODE discussion). Ineligible subjects are included on the data set for analysis purposes because they are representative of other ineligible subjects who did not respond. The population totals used for post-stratification adjustments also contained ineligibles (see ANL_WT discussion). During analyses using the design-specific package SUDAAN, eligible subjects should be identified with the *SUBPOPN* statement. However, the records for the ineligible respondents should be eliminated prior to analyses using other statistical packages such as SAS.

See the Missing Data Compensation section and Appendix E for recommended uses of the variable during analysis.

Variable: INELCODE

Length: 3

Label: Ineligibility Status Code

Values: INELCODE is a categorical variable with the following distribution:

Levels	Frequency	Percent
1 = Ineligible Based On Administrative Records	3,075	7.1%
2 = Self-Report Ineligible	183	0.4%
3 = Eligible	39,855	92.4%
	43,113	

Description: Sample members were classified as eligible or ineligible based on information such as administrative records and self-report records. This information was used to create an eligibility flag (see ELIGFLGW discussion). Ineligible subjects are included on the data set for analysis purposes because they are representative of other ineligible subjects who did not respond. The population totals used for post-stratification adjustments also contained ineligibles (see ANL_WT discussion). During analyses using the design-specific package SUDAAN, eligible subjects should be identified with the *SUBPOPN* statement. However, the records for the ineligible respondents should be eliminated prior to analyses using other statistical packages such as SAS.

See Appendix E for recommended uses of the variable during analysis.

Variable: NVSTRAT

Length: 4

Label: Frame Count Within Variance Stratum

Values: NVSTRAT is a continuous variable with the following distribution:

Maximum	85,127
Median	2,536
Mirimum	26

Description: A stratified random sampling design was used for the 1996 EOS survey. The sampling frame was stratified for each form by service, region, Paygrade groupings, and race/ethnicity groupings. Optimum allocation techniques were used to distribute the sample across the strata. Variance estimation requires at least two analysis records within each sampling stratum. Precision of the estimates improve as the average number of analysis records within the strata increases. Since nonresponse causes a decrease in the number of records, several strata were collapsed. Strata were combined based on the stratum variables and the response pattern within the strata. Thus weighting class strata (VSTRAT) were formed by collapsing the sampling strata to obtain a minimum sample size of 25 respondents. Sampling frame counts were calculated within the weighting class strata for analysis purposes (NVSTRAT).

See Appendix E for recommended uses of the variable during analysis.

Variable: REGION3

Length: 3

Label: Location

Values: REGION3 is a categorical variable with the following distribution:

Levels	Frequency	Percent
1 = United States, Northeast	1,899	4.4%
2 = United States, North Central	2,369	5.5%
3 = United States, South	17,739	41.1%
4 = United States, West	10,621	24.6%
5 = Europe	4,164	9.7%
6 = Asia/Pacific Islands	3,921	9.1%
7 = Other	2,183	5.1%
8 = Unknown/Missing	217	0.5%
	43,113	

Description: After the end of data collection, REGION3 was identified as a significant predictor of the likelihood of response.

Variable: VSTRAT

Length: 3

Label: Variance Estimation Strata

Values: VSTRAT is a continuous variable with the following distribution:

Maximum	234
Median	104
Minimum	1

Description: A stratified random sampling design was used for the 1996 EOS survey. The sampling frame was stratified for each form by service, region, Paygrade groupings, and race/ethnicity groupings. Optimum allocation techniques were used to distribute the sample across the strata. Variance estimation requires at least two analysis records within each sampling stratum. Precision of the estimates improve as the average number of analysis records within the strata increases. Since nonresponse causes a decrease in the number of records, several strata were collapsed. Strata were combined based on the stratum variables and the response pattern within the strata. Thus weighting class strata (VSTRAT) were formed by collapsing the sampling strata to obtain a minimum sample size of 25 respondents. Sampling frame counts were calculated within the weighting class strata for analysis purposes.

See Appendix E for recommended uses of the variable during analysis.

Weighting and Analysis Variables

Weighting and analysis variables included in the DMDC Internal Use Analysis File are described in the subsequent pages. The variable information is displayed using the following format:

Label:	variable name
Len:	length or size of the variable
Description:	description of the variable
Freqs:	number of records containing a particular value or range of values
Pct:	percent distribution associated with the frequencies

The variable name (*Label*) is the name of the variable on the data set. The size of the variable (*Len*) includes the variable length and the type of variable, such as numeric or alphanumeric. Alphanumeric variables can be identified by an "A" before the variable length. The description of the variable (*Description*) includes information such as the label and values of the variable. Variable values are displayed (*Description*) in one of two ways depending on the type of variable. Frequency distributions are used for categorical variables. Ranges of values are used for continuous variables. The total number of records for each level of the variable (categorical) or within the valid range (continuous) is given in the *Freqs* column while the range is provided in the *Description* column. The percent distribution (*Pct*) is provided for the categorical variables.

Final Analysis Variables

See the Missing Data Compensation Procedures section and Appendix E for recommended uses of the variables during analysis and for details concerning the use of the following variables during the construction of analysis weights.

Label	Len	Description	Freqs	Pct
ANL_WT	8	Analysis Weight		
		0 = Nonrespondent Weight	33,641	43.8%
		Positive Range = 1.06 - 579.45	43,113	56.2%
			76,754	
ELIGFLGW	3	Indicator for Subject Eligibility		
		0 = Ineligible Subjects	3,258	7.5%
		1 = Eligible Subjects	39,977	92.5%
			43,235	
NVSTRAT	4	Frame Count Within Variance Stratum		
		Range = 26 - 85,127	76,754	100.0%
WGHT_FLG	3	Response Indicator		
		0 = Nonrespondent	33,641	43.8%
		1 = Respondent	43,113	56.2%
			76,754	
RSPADJWT	8	Response-adjusted Sampling Weight		
		0 = Nonrespondent Weight	33,641	43.8%
		Positive Range = 1.04 - 596.42	43,113	56.2%
			76,754	
VSTRAT	3	Variance Estimation Stratum		
		Range = 1 - 234	76,754	100.0%

Intermediate Weighting Variables

See the Missing Data Compensation Procedures section for details concerning the use of the following variables during the construction of analysis weights.

Label	Len	Description	Freqs	Pct
DENBLK2	3	Black Density Category (4)		
		1 = Low (Enlisted, 2.4%-22.3%)	33,351	43.5%
		2 = High (Enlisted, 22.8%-38.1%)	22,102	28.8%
		3 = Low (Officer, 0.0%-8.4%)	13,412	17.5%
		4 = High (Officer, 8.4%-21.0%)	7,889	10.3%
			76,754	
DENHSP2	3	Hispanic Density Category (4)		
		1 = Low (Enlisted, 3.0%-6.3%)	27,273	35.5%
		2 = High (Enlisted, 6.5%-8.5%)	28,180	36.7%
		3 = Low (Officer, 0.0%-2.8%)	11,533	15.0%
		4 = High (Officer, 2.8%-7.8%)	9,768	12.7%
			76,754	
DENMNR2	3	Minority Density Category (4)		
		1 = Low (Enlisted, 8.1%-33.2%)	32,160	41.9%
		2 = High (Enlisted, 33.5%-53.0%)	23,293	30.3%
		3 = Low (Officer, 0.0%-14.8%)	13,320	17.4%
		4 = High (Officer, 15.0%-34.7%)	7,981	10.4%
			76,754	
DMDC_ID	4	Unique Subject Identification Number		
		Range = 00001 - 76754	76,754	100.0%
EDLEVEL	3	Education Category		
		1 = Less Than High School	394	0.5%
		2 = High School Graduate or Unknown	46,825	61.0%
		3 = At Least Some College	9,285	12.1%
		4 = College Graduate Or More	20,250	26.4%
			76,754	
INELCODE	3	Ineligibility Status Code		
		0 = Study Nonrespondents	33,641	43.8%
		1 = Ineligible Based On Administrative Records	3,075	4.0%
		2 = Self-Report Ineligible	183	0.3%
		3 = Eligible	39,855	51.9%
			76,754	
MISRELQS	3	Indicator For Missing Relevant Questions		
		0 = No, At Least One Question Answered	40,217	52.4%
		1 = Yes, No Relevant Questions Answered	36,537	47.6%
			76,754	
MISSCNT	3	Number Of Missing Relevant Questions		
		0 = All relevant questions were answered	31,570	41.1%
			45,184	58.9%

		Positive Range = 1 - 57	76,754	
NRSPCODE	3	Nonrespondent Status Code		
		0 = Study Respondent	43,113	56.2%
		1 = Refused participation	77	0.1%
		2 = Returned blank questionnaire	107	0.1%
		3 = Missing answers to all relevant questions	122	0.2%
		4 = Postal non-delivery	523	0.7%
			32,812	42.7%
		5 = Nonrespondent	76,754	
PSTSTRAT	8	Post-Stratification Weight Adjustment		
		0 = Study Nonrespondents	33,641	43.8%
		Positive Range = 0.97 - 1.05	43,113	56.2%
			76,754	
R_CRACE	3	Recoded Race/Ethnicity		
		1 = White or Unknown/Missing	17,161	22.4%
		2 = Black	18,500	24.1%
		3 = Hispanic	16,685	21.7%
		4 = Native American	7,934	10.3%
		5 = Asia/Pacific Islander	13,383	17.4%
		6 = Other	3,091	4.0%
			76,754	
REGION3	3	Location		
		1 = Northeast United States	3,336	4.3%
		2 = North Central United States	4,096	5.3%
		3 = South United	31,547	41.1%
		States	19,010	24.8%
		4 = West United States	7,498	9.8%
		5 =	7,062	9.2%
		Europe	3,839	5.0%
		6 = Asia, Pacific Islands	366	0.5%
		7 = Other	76,754	
		8 = Missing		
RSPPROP	8	Response Adjustment		
		0 = Study Nonrespondents	33,641	43.8%
		Positive Range = 1.04 - 5.92	43,113	56.2%
			76,754	
SAMPWT	8	Sampling Weight		
		Range = 1 - 184.26	76,754	100%
SEG1A	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=E1-E3		
		GENDER=Male		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%)		

REGION=United States

	0	76,325	99.4%
	1	429	0.6%
		76,754	

SEG1B 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=E1-E3
GENDER=Male
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)
HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%)
REGION=Europe

	0	76,533	99.7%
	1	221	0.3%
		76,754	

SEG2 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=E1-E3
GENDER=Male
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)
HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%)
REGION=Asia/Pacific Islands, Other

	0	76,655	99.9%
	1	99	0.1%
		76,754	

SEG3 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic
PAYGRADE=E1-E3
GENDER=Male
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)
HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%)
DEPLOYED=No

	0	76,246	99.3%
	1	508	0.7%
		76,754	

SEG4 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=Native American, Other
PAYGRADE=E1-E3
GENDER=Male
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)
HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%)
DEPLOYED=No

	0	76,496	99.7%
	1	258	0.3%
		76,754	

SEG5	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E1-E3 GENDER=Male MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%) HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%) DEPLOYED=Yes		
		0	76,638	99.8%
		1	116	0.2%
			76,754	
SEG6	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E1-E3 GENDER=Male MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)		
		0	76,293	99.4%
		1	461	0.6%
			76,754	
SEG7	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E1-E3 GENDER=Female MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,498	99.7%
		1	256	0.3%
			76,754	
SEG8	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E1-E3 GENDER=Female MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)		
		0	76,588	99.8%
		1	166	0.2%
			76,754	
SEG9	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E4, Enlisted Unknown EDUCATION=Less Than High School, High School Graduate MARITAL STATUS=Single		
		0	74642	97.2%
		1	2112	2.8%
			76,754	

SEG10	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E4, Enlisted Unknown EDUCATION=Less Than High School, High School Graduate MARITAL STATUS=Married		
		0	75820	98.8%
		1	934	1.2%
			76,754	
SEG11	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E4, Enlisted Unknown EDUCATION=Some College, College Graduate Or Higher		
		0	76,576,	99.8%
		1	178	0.2%
			76,754	
SEG12	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E5 REGION=Northeast US, North Central US, Southern US		
		0	76,099	99.1%
		1	655	0.9%
			76,754	
SEG13	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E5 REGION=Western US		
		0	76,531	99.7%
		1	223	0.3%
			76,754	
SEG14	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E5 REGION=Europe, Asia/Pacific Islands, Other		
		0	76,125	99.2%
		1	629	0.8%
			76,754	
SEG15A	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American PAYGRADE=E6 EDUCATION=Less Than High School, High School Graduate		
		0	76,097	99.1%
		1	657	0.9%

			76,754	
SEG15B	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American PAYGRADE=E7, E8 EDUCATION=Less Than High School, High School Graduate		
		0	76,038	99.1%
		1	716	0.9%
			76,754	
SEG16A	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Other PAYGRADE=E6 EDUCATION=Less Than High School, High School Graduate		
		0	76,504	99.7%
		1	250	0.3%
			76,754	
SEG16B	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Other PAYGRADE=E7, E8 EDUCATION=Less Than High School, High School Graduate		
		0	76,561	99.7%
		1	193	0.3%
			76,754	
SEG17A	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E6 EDUCATION=Some College, College Graduate Or Higher MARITAL STATUS=Single		
		0	76,691	99.9%
		1	63	0.1%
			76,754	
SEG17B	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E7, E8 EDUCATION=Some College, College Graduate Or Higher MARITAL STATUS=Single		
		0	76,649	99.9%
		1	105	0.1%
			76,754	
SEG18A	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=E6 EDUCATION=Some College, College Graduate Or Higher		

		MARITAL STATUS=Married		
		0	76,608	99.8%
		1	146	0.2%
			76,754	
SEG18B	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=E7, E8		
		EDUCATION=Some College, College Graduate Or Higher		
		MARITAL STATUS=Married		
		0	76,491	99.7%
		1	263	0.3%
			76,754	
SEG19A	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=E9		
		0	76,671	99.9%
		1	83	0.1%
			76,754	
SEG19B	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=W1-W5, Officer Unknown		
		MINORITY DENSITY=High (Officers, 15.0%-34.7%)		
		0	76,527	99.7%
		1	227	0.3%
			76,754	
SEG20B	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=W1-W5, Officer Unknown		
		MINORITY DENSITY=Low (Officers, 0.0%-14.8%)		
		EDUCATION=Less Than High School, High School Graduate, Some College		
		0	76,492	99.7%
		1	262	0.3%
			76,754	
SEG21B	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=White, Hispanic, Native American, Other		
		PAYGRADE=W1-W5, Officer Unknown		
		MINORITY DENSITY=Low (Officers, 0.0%-14.8%)		
		EDUCATION=College Graduate Or Higher		
		0	76,632	99.8%
		1	122	0.2%
			76,754	
SEG22	3	Segment Created For Response Modeling		

SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O1, O2
GENDER=Male

0	76,098	99.1%
1	656	0.9%
	76,754	

SEG23 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O1, O2
GENDER=Female

0	76,619	99.8%
1	135	0.2%
	76,754	

SEG24 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O3

0	75733	98.7%
1	1021	1.3%
	76,754	

SEG25 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O4
MARITAL STATUS=Single

0	76,609	99.8%
1	145	0.2%
	76,754	

SEG26 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O4
MARITAL STATUS=Married
REGION=Northeast US, North Central US, Southern US

0	76,479	99.6%
1	275	0.4%
	76,754	

SEG27A 3 Segment Created For Response Modeling
SERVICE=Army
RACE/ETHNICITY=White, Hispanic, Native American, Other
PAYGRADE=O4
MARITAL STATUS=Married
REGION=Western US

0	76,712	99.9%
1	42	0.1%
	76,754	

SEG27B	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=O4 MARITAL STATUS=Married REGION=Europe, Asia/Pacific Islands, Other		
		0	76,655	99.9%
		1	99	0.1%
			76,754	
SEG28	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=White, Hispanic, Native American, Other PAYGRADE=O5, O6		
		0	76,288	99.4%
		1	466	0.6%
			76,754	
SEG29	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E1		
		0	76,534	99.7%
		1	220	0.3%
			76,754	
SEG30	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E2, E3		
		0	75934	98.9%
		1	820	1.1%
			76,754	
SEG31	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E4, Enlisted Unknown GENDER=Male		
		0	75669	98.6%
		1	1085	1.4%
			76,754	
SEG32	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E4, Enlisted Unknown GENDER=Female		
		0	76,373	99.5%
		1	381	0.5%
			76,754	
SEG33	3	Segment Created For Response Modeling		

		SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E5		
		0	75633	98.5%
		1	1121	1.5%
			76,754	
SEG34	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E6		
		0	75885	98.9%
		1	869	1.1%
			76,754	
SEG35	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E7		
		0	76,146	99.2%
		1	608	0.8%
			76,754	
SEG36	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=E8, E9		
		0	76,598	99.8%
		1	156	0.2%
			76,754	
SEG37	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=W1		
		0	76,650	99.9%
		1	104	0.1%
			76,754	
SEG38	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=W2-W5, Officer Unknown		
		0	76,425	99.6%
		1	329	0.4%
			76,754	
SEG39	3	Segment Created For Response Modeling SERVICE=Army RACE/ETHNICITY=Black PAYGRADE=O1, O2 HISPANIC DENSITY=Low (Officers, 0.0%-2.8%)		
		0	76,568	99.8%
		1	186	0.2%

			76,754	
SEG40	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Black		
		PAYGRADE=O1, O2		
		HISPANIC DENSITY=High (Officers, 2.8%-7.8%)		
		0	76,454	99.6%
		1	300	0.4%
			76,754	
SEG41	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Black		
		PAYGRADE=O3, O4		
		MARITAL STATUS=Single		
		0	76,221	99.3%
		1	533	0.7%
			76,754	
SEG42	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Black		
		PAYGRADE=O3, O4		
		MARITAL STATUS=Married		
		0	76,060	99.1%
		1	694	0.9%
			76,754	
SEG43	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Black		
		PAYGRADE=O5, O6		
		0	76,506	99.7%
		1	248	0.3%
			76,754	
SEG44	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E1-E3		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,373	99.5%
		1	381	0.5%
			76,754	
SEG45	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E1-E3		
		MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)		
		0	76,586	99.8%
		1	168	0.2%
			76,754	

SEG46	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E4, Enlisted Unknown		
		EDUCATION=Less Than High School, High School Graduate		
		GENDER=Male		
		0	76,275	99.4%
		1	479	0.6%
			76,754	
SEG47	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E4, Enlisted Unknown		
		EDUCATION=Less Than High School, High School Graduate		
		GENDER=Female		
		0	76,646	99.9%
		1	108	0.1%
			76,754	
SEG48	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E4, Enlisted Unknown		
		EDUCATION=Some College, College Graduate Or Higher		
		0	76,627	99.8%
		1	127	0.2%
			76,754	
SEG49	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E5, E6		
		HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%)		
		0	76,433	99.6%
		1	321	0.4%
			76,754	
SEG50	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E5, E6		
		HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%)		
		MARITAL STATUS=Single		
		0	76,636	99.8%
		1	118	0.2%
			76,754	
SEG51	3	Segment Created For Response Modeling		
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E5, E6		

		HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%)		
		MARITAL STATUS=Married		
		0	76,621	99.8%
		1	133	0.2%
			76,754	
SEG52A	3	Segment Created For Response Modeling	76,754	100%
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=E7-E9		
		0	76,502	99.7%
		1	252	0.3%
			76,754	
SEG52B	3	Segment Created For Response Modeling	76,754	100%
		SERVICE=Army		
		RACE/ETHNICITY=Asia/Pacific Islander		
		PAYGRADE=W1-W5, Officer Unknown, O1-O6		
		0	75122	97.9%
		1	1632	2.1%
			76,754	
SEG53	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=E1, E2		
		REGION=Northeast US, North Central US, Southern US		
		0	76,565	99.8%
		1	189	0.2%
			76,754	
SEG54A	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=E1, E2		
		REGION=Western US		
		0	76,677	99.9%
		1	77	0.1%
			76,754	
SEG54B	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=E1, E2		
		REGION=Europe, Asia/Pacific Islands, Other		
		0	76,695	99.9%
		1	59	0.1%
			76,754	
SEG55	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=E3		
		0	76,270	99.4%

		1	484	0.6%
			76,754	
SEG56A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E4, Enlisted Unknown REGION=United States		
		0	76,356	99.5%
		1	398	0.5%
			76,754	
SEG56B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E5 REGION=United States		
		0	76,498	99.7%
		1	256	0.3%
			76,754	
SEG57A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E4, Enlisted Unknown REGION=Europe, Asia/Pacific Islands		
		0	76,665	99.9%
		1	89	0.1%
			76,754	
SEG57B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E5 REGION=Europe, Asia/Pacific Islands		
		0	76,690	99.9%
		1	64	0.1%
			76,754	
SEG58A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E4, Enlisted Unknown REGION=Other		
		0	76,696	99.9%
		1	58	0.1%
			76,754	
SEG58B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E5 REGION=Other		
		0	76,707	99.9%

		1	47	0.1%
			76,754	
SEG59	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E6		
		0	76,423	99.6%
		1	331	0.4%
			76,754	
SEG60A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E7-E9 REGION=Northeast US, North Central US, Southern US		
		0	76,506	99.7%
		1	248	0.3%
			76,754	
SEG60B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=W1-W5, Officer Unknown, O1-O3 REGION=Northeast US, North Central US, Southern US		
		0	76,485	99.6%
		1	269	0.4%
			76,754	
SEG61A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E7-E9 REGION=Western US		
		0	76,645	99.9%
		1	109	0.1%
			76,754	
SEG61B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=W1-W5, Officer Unknown, O1-O3 REGION=Western US		
		0	76,630	99.8%
		1	124	0.2%
			76,754	
SEG62A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=White PAYGRADE=E7-E9 REGION=Europe, Asia/Pacific Islands, Other		
		0	76,684	99.9%
		1	70	0.1%

			76,754	
SEG62B	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=W1-W5, Officer Unknown, O1-O3		
		REGION=Europe, Asia/Pacific Islands, Other		
		0	76,652	99.9%
		1	102	0.1%
			76,754	
SEG63	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=White		
		PAYGRADE=O4-O6		
		0	76,412	99.6%
		1	342	0.4%
			76,754	
SEG64	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=E1-E3		
		0	75865	98.8%
		1	889	1.2%
			76,754	
SEG65	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=E4, Enlisted Unknown		
		0	76,202	99.3%
		1	552	0.7%
			76,754	
SEG66	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=E5		
		REGION=Northeast US, North Central US, Southern US		
		0	76,425	99.6%
		1	329	0.4%
			76,754	
SEG67A	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=E5		
		REGION=Western US		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,694	99.9%
		1	60	0.1%
			76,754	
SEG67B	3	Segment Created For Response Modeling		

SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E5
REGION=Europe, Asia/Pacific Islands, Other
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)

0	76,716	100.0%
1	38	0.0%
	76,754	

SEG68A 3 Segment Created For Response Modeling
SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E5
REGION=Western US
MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)

0	76,708	99.9%
1	46	0.1%
	76,754	

SEG68B 3 Segment Created For Response Modeling
SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E5
REGION=Europe, Asia/Pacific Islands, Other
MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)

0	76,682	99.9%
1	72	0.1%
	76,754	

SEG69 3 Segment Created For Response Modeling
SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E6
MARITAL STATUS=Single

0	76,614	99.8%
1	140	0.2%
	76,754	

SEG70 3 Segment Created For Response Modeling
SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E6
MARITAL STATUS=Married

0	76,565	99.8%
1	189	0.2%
	76,754	

SEG71A 3 Segment Created For Response Modeling
SERVICE=Navy
RACE/ETHNICITY=Black
PAYGRADE=E7-E9

0	76,630	99.8%

		1	124	0.2%
			76,754	
SEG71B	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=W1-W5, Officer Unknown, O1-O6		
		GENDER=Male		
		0	76,202	99.3%
		1	552	0.7%
			76,754	
SEG72B	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Black		
		PAYGRADE=W1-W5, Officer Unknown, O1-O6		
		GENDER=Female		
		0	76,613	99.8%
		1	141	0.2%
			76,754	
SEG73	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Hispanic, Native American		
		PAYGRADE=E1		
		REGION=Northeast US, North Central US, Southern US		
		0	76,451	99.6%
		1	303	0.4%
			76,754	
SEG74A	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Hispanic, Native American		
		PAYGRADE=E1		
		REGION=Western US		
		0	76,658	99.9%
		1	96	0.1%
			76,754	
SEG74B	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Hispanic, Native American		
		PAYGRADE=E1		
		REGION=Europe, Asia/Pacific Islands, Other		
		0	76,699	99.9%
		1	55	0.1%
			76,754	
SEG75	3	Segment Created For Response Modeling		
		SERVICE=Navy		
		RACE/ETHNICITY=Hispanic, Native American		
		PAYGRADE=E2, E3		
		REGION=Northeast US, North Central US		
		0	76,542	99.7%

		1	212	0.3%
			76,754	
SEG76	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E2, E3 REGION=Southern US		
		0	76,295	99.4%
		1	459	0.6%
			76,754	
SEG77A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E2, E3 REGION=Western US DEPLOYED=No		
		0	76,324	99.4%
		1	430	0.6%
			76,754	
SEG77B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E2, E3 REGION=Europe, Asia/Pacific Islands, Other DEPLOYED=No		
		0	76,499	99.7%
		1	255	0.3%
			76,754	
SEG78A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E2, E3 REGION=Western US DEPLOYED=Yes		
		0	76,682	99.9%
		1	72	0.1%
			76,754	
SEG78B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E2, E3 REGION=Europe, Asia/Pacific Islands, Other DEPLOYED=Yes		
		0	76,644	99.9%
		1	110	0.1%
			76,754	
SEG79AA	3	Segment Created For Response Modeling SERVICE=Navy		

		RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E4, Enlisted Unknown REGION=United States		
		0	76,140	99.2%
		1	614	0.8%
			76,754	
SEG79AB	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E4, Enlisted Unknown REGION=Europe		
		0	76,674	99.9%
		1	80	0.1%
			76,754	
SEG79BA	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E5, E6 REGION=United States		
		0	76,116	99.2%
		1	638	0.8%
			76,754	
SEG79BB	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E5, E6 REGION=Europe		
		0	76,668	99.9%
		1	86	0.1%
			76,754	
SEG80A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E4, Enlisted Unknown REGION=Asia/Pacific Islands		
		0	76,678	99.9%
		1	76	0.1%
			76,754	
SEG80B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E5, E6 REGION=Asia/Pacific Islands		
		0	76,657	99.9%
		1	97	0.1%
			76,754	
SEG81A	3	Segment Created For Response Modeling SERVICE=Navy		

		RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E4, Enlisted Unknown REGION=Other		
		0	76,638	99.8%
		1	116	0.2%
			76,754	
SEG81B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E5, E6 REGION=Other		
		0	76,605	99.8%
		1	149	0.2%
			76,754	
SEG82A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E7-E9 REGION=United States		
		0	76,604	99.8%
		1	150	0.2%
			76,754	
SEG82B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=W1-W5		
		0	76,720	100.0%
		1	34	0.0%
			76,754	
SEG83AB	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E7-E9 REGION=Europe, Asia/Pacific Islands, Other		
		0	76,708	99.9%
		1	46	0.1%
			76,754	
SEG84	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=Officer Unknown, O1		
		0	76,492	99.7%
		1	262	0.3%
			76,754	
SEG85	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=O2, O3		

		0	76,026	99.1%
		1	728	0.9%
			76,754	
SEG86	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Hispanic, Native American PAYGRADE=O4-O6		
		0	76,414	99.6%
		1	340	0.4%
			76,754	
SEG87	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E1		
		0	76,600	99.8%
		1	154	0.2%
			76,754	
SEG88	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E2, E3		
		0	76,108	99.2%
		1	646	0.8%
			76,754	
SEG89AA	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E4, Enlisted Unknown REGION=United States		
		0	76,441	99.6%
		1	313	0.4%
			76,754	
SEG89BA	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5, E6 REGION=United States		
		0	76,256	99.4%
		1	498	0.6%
			76,754	
SEG89BB	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5, E6 REGION=Europe		
		0	76,715	99.9%
		1	39	0.1%
			76,754	

SEG90A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E4, Enlisted Unknown REGION=Europe, Asia/Pacific Islands, Other		
		0	76,616	99.8%
		1	138	0.2%
			76,754	
SEG90B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5, E6 REGION=Asia/Pacific Islands, Other		
		0	76,428	99.6%
		1	326	0.4%
			76,754	
SEG92A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E7-E9 MARITAL STATUS=Single		
		0	76,688	99.9%
		1	66	0.1%
			76,754	
SEG92B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=W1-W5, Officer Unknown, O1 MARITAL STATUS=Single		
		0	76,542	99.7%
		1	212	0.3%
			76,754	
SEG93A	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E7-E9 MARITAL STATUS=Married		
		0	76,388	99.5%
		1	366	0.5%
			76,754	
SEG93B	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=W1-W5, Officer Unknown, O1 MARITAL STATUS=Married		
		0	76,664	99.9%
		1	90	0.1%
			76,754	

SEG94	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=O2, O3 MARITAL STATUS=Single BLACK DENSITY=Low (Officers, 0.0%-8.4%)		
		0	76,404	99.5%
		1	350	0.5%
			76,754	
SEG95	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=O2, O3 MARITAL STATUS=Single BLACK DENSITY=High (Officers, 8.4%-21.0%)		
		0	76,623	99.8%
		1	131	0.2%
			76,754	
SEG96	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=O2, O3 MARITAL STATUS=Married		
		0	76,513	99.7%
		1	241	0.3%
			76,754	
SEG97	3	Segment Created For Response Modeling SERVICE=Navy RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=O4-O6		
		0	76,407	99.5%
		1	347	0.5%
			76,754	
SEG98	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=White, Other PAYGRADE=E1-E3		
		0	75587	98.5%
		1	1167	1.5%
			76,754	
SEG99	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Asia/Pacific Islander PAYGRADE=E1-E3		
		0	75936	98.9%
		1	818	1.1%
			76,754	
SEG100	3	Segment Created For Response Modeling		

SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=E4, Enlisted Unknown
MARITAL STATUS=Single

	0	76,094	99.1%
	1	660	0.9%
		76,754	

SEG101 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=E4, Enlisted Unknown
MARITAL STATUS=Married

	0	76,489	99.7%
	1	265	0.3%
		76,754	

SEG102 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=E5

	0	76,175	99.2%
	1	579	0.8%
		76,754	

SEG103A 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=E6

	0	76,426	99.6%
	1	328	0.4%
		76,754	

SEG103B 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=E7-E9

	0	76,412	99.6%
	1	342	0.4%
		76,754	

SEG104 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE= Warrant Unknown, W1-W5, Officer Unknown, O1-O3, O6
RACE/ETHNICITY=White

	0	76,306	99.4%
	1	448	0.6%
		76,754	

SEG105 3 Segment Created For Response Modeling
SERVICE=Marine Corps

RACE/ETHNICITY=Asia/Pacific Islander, Other
PAYGRADE= Warrant Unknown, W1-W5, Officer Unknown,
O1-O3, O6

0	76,478	99.6%
1	276,	0.4%
	76,754	

SEG106 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=White, Asia/Pacific Islander, Other
PAYGRADE=O4, O5

0	76,534	99.7%
1	220	0.3%
	76,754	

SEG107 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=Black
PAYGRADE=E1-E3

0	75960	99.0%
1	794	1.0%
	76,754	

SEG108 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=Hispanic, Native American
PAYGRADE=E1-E3

0	74469	97.0%
1	2285	3.0%
	76,754	

SEG109 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=Black, Hispanic, Native American
PAYGRADE=E4, Enlisted Unknown
MARITAL STATUS=Single

0	76,047	99.1%
1	707	0.9%
	76,754	

SEG110 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=Black
PAYGRADE=E4, Enlisted Unknown
MARITAL STATUS=Married

0	76,618	99.8%
1	136	0.2%
	76,754	

SEG111 3 Segment Created For Response Modeling
SERVICE=Marine Corps
RACE/ETHNICITY=Hispanic, Native American
PAYGRADE=E4
MARITAL STATUS=Married

		0	76,466	99.6%
		1	288	0.4%
			76,754	
SEG112	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black PAYGRADE=E5, E6		
		0	76,161	99.2%
		1	593	0.8%
			76,754	
SEG113	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Hispanic, Native American PAYGRADE=E5, E6		
		0	76,092	99.1%
		1	662	0.9%
			76,754	
SEG114	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black, Hispanic, Native American PAYGRADE=E7		
		0	76,443	99.6%
		1	311	0.4%
			76,754	
SEG115A	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black, Hispanic, Native American PAYGRADE=E8, E9		
		0	76,614	99.8%
		1	140	0.2%
			76,754	
SEG115B	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black, Hispanic, Native American PAYGRADE=W1-W5, Officer Unknown		
		0	76,508	99.7%
		1	246	0.3%
			76,754	
SEG116	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black, Hispanic, Native American PAYGRADE=O1-O3		
		0	75870	98.8%
		1	884	1.2%
			76,754	
SEG117	3	Segment Created For Response Modeling SERVICE=Marine Corps RACE/ETHNICITY=Black, Hispanic, Native American		

PAYGRADE =O4-O6

0	76,543	99.7%
1	211	0.3%
	76,754	

SEG118 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=E1, E2

0	76,421	99.6%
1	333	0.4%
	76,754	

SEG119 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=E3
REGION=Northeast US, North Central US, Southern US

0	76,531	99.7%
1	223	0.3%
	76,754	

SEG120 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=Enlisted Unknown, E4
REGION=Northeast US, North Central US, Southern US

0	76,332	99.5%
1	422	0.5%
	76,754	

SEG121A 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=E3
REGION=Western US

0	76,606	99.8%
1	148	0.2%
	76,754	

SEG121B 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=E3
REGION=Europe, Asia/Pacific Islands, Other

0	76,630	99.8%
1	124	0.2%
	76,754	

SEG122A 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=White, Native American
PAYGRADE=Enlisted Unknown, E4

		REGION=Western US		
		MARITAL STATUS=Single		
		GENDER=Male		
		0	76,606	99.8%
		1	148	0.2%
			76,754	
SEG122B	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=White, Native American		
		PAYGRADE=Enlisted Unknown, E4		
		REGION=Europe, Asia/Pacific Islands, Other		
		MARITAL STATUS=Single		
		GENDER=Male		
		0	76,545	99.7%
		1	209	0.3%
			76,754	
SEG123A	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=White, Native American		
		PAYGRADE=Enlisted Unknown, E4		
		REGION=Western US		
		MARITAL STATUS=Single		
		GENDER=Female		
		0	76,706	99.9%
		1	48	0.1%
			76,754	
SEG123B	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=White, Native American		
		PAYGRADE=Enlisted Unknown, E4		
		REGION=Europe, Asia/Pacific Islands, Other		
		MARITAL STATUS=Single		
		GENDER=Female		
		0	76,703	99.9%
		1	51	0.1%
			76,754	
SEG124BA	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=White, Native American		
		PAYGRADE=E4, Enlisted Unknown		
		REGION=Western US		
		MARITAL STATUS=Married		
		0	76,659	99.9%
		1	95	0.1%
			76,754	
SEG124BB	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=White, Native American		

		PAYGRADE=E4, Enlisted Unknown REGION=Europe, Asia/Pacific Islands, Other MARITAL STATUS=Married		
		0	76,646	99.9%
		1	108	0.1%
			76,754	
SEG125A	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=E5 GENDER=Male		
		0	76,104	99.2%
		1	650	0.8%
			76,754	
SEG126A	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=E6 GENDER=Male		
		0	76,368	99.5%
		1	386	0.5%
			76,754	
SEG126B	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=E7 GENDER=Male		
		0	76,197	99.3%
		1	557	0.7%
			76,754	
SEG127A	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White PAYGRADE=E5, E6 GENDER=Female		
		0	76,665	99.9%
		1	89	0.1%
			76,754	
SEG127B	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White PAYGRADE=E7 GENDER=Female		
		0	76,710	99.9%
		1	44	0.1%
			76,754	
SEG128A	3	Segment Created For Response Modeling SERVICE=Air Force		

		RACE/ETHNICITY=Native American PAYGRADE=E5, E6 GENDER=Female		
		0	76,681	99.9%
		1	73	0.1%
			76,754	
SEG128B	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Native American PAYGRADE=E7 GENDER=Female		
		0	76,723	100.0%
		1	31	0.0%
			76,754	
SEG129A	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=E8, E9		
		0	76,571	99.8%
		1	183	0.2%
			76,754	
SEG130	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=O1-O4		
		0	75567	98.5%
		1	1187	1.5%
			76,754	
SEG131	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=White, Native American PAYGRADE=O5, O6		
		0	76,452	99.6%
		1	302	0.4%
			76,754	
SEG132	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=Enlisted Unknown, E1-E4 GENDER=Male		
		0	76,226	99.3%
		1	528	0.7%
			76,754	
SEG133	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=Enlisted Unknown, E1-E4 GENDER=Female		

		0	76,478	99.6%
		1	276,	0.4%
			76,754	
SEG134	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=E5		
		0	76,221	99.3%
		1	533	0.7%
			76,754	
SEG135A	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=E6		
		0	76,495	99.7%
		1	259	0.3%
			76,754	
SEG135B	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=E7-E9		
		0	76,467	99.6%
		1	287	0.4%
			76,754	
SEG135C	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=W1-W5, Officer Unknown, O1, O2		
		0	76,513	99.7%
		1	241	0.3%
			76,754	
SEG136	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=O3-O6 GENDER=Male		
		0	76,069	99.1%
		1	685	0.9%
			76,754	
SEG137	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Black PAYGRADE=O3-O6 GENDER=Female		
		0	76,498	99.7%
		1	256	0.3%
			76,754	
SEG138	3	Segment Created For Response Modeling		

SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=Less Than High School, High School Graduate

	0	76,283	99.4%
	1	471	0.6%
		76,754	

SEG139 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=Some College
PAYGRADE=Enlisted Unknown, E1-E4

	0	76,307	99.4%
	1	447	0.6%
		76,754	

SEG140A 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=Some College
PAYGRADE=E5-E9
MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)

	0	76,444	99.6%
	1	310	0.4%
		76,754	

SEG141A 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=Some College
PAYGRADE=E5-E9, Officer Unknown, O1-O5
MINORITY DENSITY=High (Enlisted, 33.5%-53.0%), Low (Officers, 0.0%-14.8%), High (Officers, 15.0%-34.7%)

	0	76,513	99.7%
	1	241	0.3%
		76,754	

SEG142 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=College Graduate Or Higher
REGION=Northeast US, North Central US
HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%), Low (Officer, 0.0%-2.8%)

	0	76,632	99.8%
	1	122	0.2%
		76,754	

SEG143 3 Segment Created For Response Modeling
SERVICE=Air Force
RACE/ETHNICITY=Hispanic
EDUCATION=College Graduate Or Higher
REGION=Southern US

		HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%), Low (Officer, 0.0%-2.8%)		
		0	76,401	99.5%
		1	353	0.5%
			76,754	
SEG144	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=Hispanic		
		EDUCATION=College Graduate Or Higher		
		REGION=Northeast US, North Central US		
		HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%), High (Officer, 2.8%-7.8%)		
		0	76,498	99.7%
		1	256	0.3%
			76,754	
SEG145A	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=Hispanic		
		EDUCATION=College Graduate Or Higher		
		REGION=Western US		
		0	76,458	99.6%
		1	296	0.4%
			76,754	
SEG145B	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=Hispanic		
		EDUCATION=College Graduate Or Higher		
		REGION=Europe, Asia/Pacific Islands, Other		
		0	76,556	99.7%
		1	198	0.3%
			76,754	
SEG146	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=Asia/Pacific Islander, Other		
		PAYGRADE=Enlisted Unknown, E1-E4		
		0	75889	98.9%
		1	865	1.1%
			76,754	
SEG147	3	Segment Created For Response Modeling		
		SERVICE=Air Force		
		RACE/ETHNICITY=Asia/Pacific Islander, Other		
		PAYGRADE=E5-E9, Officer Unknown, O1-O4		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%), Low (Officer, 0.0%-14.8%)		
		HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%), Low (Officer, 0.0%-2.8%)		
		0	75658	98.6%
		1	1096	1.4%

			76,754	
SEG148	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5-E9, Officer Unknown, O1-O4 MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%), Low (Officer, 0.0%-14.8%) HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%), High (Officer, 2.8%-7.8%)		
		0	76,621	99.8%
		1	133	0.2%
			76,754	
SEG149	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5-E9, Officer Unknown, O1-O4 MINORITY DENSITY=High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) MARITAL STATUS=Single		
		0	76,411	99.6%
		1	343	0.4%
			76,754	
SEG150	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5-E9, Officer Unknown, O1-O4 MINORITY DENSITY=High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) MARITAL STATUS=Married HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%), High (Enlisted, 6.5%-8.5%), Low (Officers, 0.0%-2.8%)		
		0	76,471	99.6%
		1	283	0.4%
			76,754	
SEG151	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Asia/Pacific Islander, Other PAYGRADE=E5-E9, Officer Unknown, O1-O4 MINORITY DENSITY=High (Enlisted, 33.5%-53.0%), High (Officers, 15.0%-34.7%) MARITAL STATUS=Married HISPANIC DENSITY=High (Officers, 2.8%-7.8%)		
		0	76,643	99.9%
		1	111	0.1%
			76,754	
SEG152	3	Segment Created For Response Modeling SERVICE=Air Force RACE/ETHNICITY=Asia/Pacific Islander, Other		

PAYGRADE=O5, O6

0	76,541	99.7%
1	213	0.3%
	76,754	

SEG153 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=White
PAYGRADE=E1-E3

0	76,416	99.6%
1	338	0.4%
	76,754	

SEG154 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=White
PAYGRADE=E4, Enlisted Unknown

0	76,388	99.5%
1	366	0.5%
	76,754	

SEG155 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=White
PAYGRADE=E5-E9

0	76,162	99.2%
1	592	0.8%
	76,754	

SEG156 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=White
PAYGRADE=Warrant Unknown, W1-W5, Officer Unknown, O1-O6

0	76,521	99.7%
1	233	0.3%
	76,754	

SEG157 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Black
PAYGRADE=Enlisted Unknown, E1-E4

0	76,105	99.2%
1	649	0.8%
	76,754	

SEG158 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Native American
PAYGRADE=Enlisted Unknown, E1-E4

0	76,273	99.4%
1	481	0.6%
	76,754	

SEG159 3 Segment Created For Response Modeling

SERVICE=Coast Guard
RACE/ETHNICITY=Black
PAYGRADE=E5, E6

0	76,311	99.4%
1	443	0.6%
	76,754	

SEG160 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Native American
PAYGRADE=E5, E6

0	76,546	99.7%
1	208	0.3%
	76,754	

SEG161A 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Black, Native American
PAYGRADE=E7-E9

0	76,619	99.8%
1	135	0.2%
	76,754	

SEG161B 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Black, Native American
PAYGRADE=W1-W5, Officer Unknown, O1, O2

0	76,611	99.8%
1	143	0.2%
	76,754	

SEG162 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Black, Native American
PAYGRADE=O3-O6

0	76,651	99.9%
1	103	0.1%
	76,754	

SEG163 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other
PAYGRADE=E1-E3

0	76,072	99.1%
1	682	0.9%
	76,754	

SEG164 3 Segment Created For Response Modeling
SERVICE=Coast Guard
RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other
PAYGRADE=E4, Enlisted Unknown

0	76,243	99.3%
1	511	0.7%
	76,754	

SEG165	3	Segment Created For Response Modeling SERVICE=Coast Guard RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other PAYGRADE=E5		
		0	76,348	99.5%
		1	406	0.5%
			76,754	
SEG166	3	Segment Created For Response Modeling SERVICE=Coast Guard RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other PAYGRADE=E6, E7		
		0	76,360	99.5%
		1	394	0.5%
			76,754	
SEG167A	3	Segment Created For Response Modeling SERVICE=Coast Guard RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other PAYGRADE=E8, E9		
		0	76,708	99.9%
		1	46	0.1%
			76,754	
SEG167B	3	Segment Created For Response Modeling SERVICE=Coast Guard RACE/ETHNICITY=Hispanic, Asia/Pacific Islander, Other PAYGRADE=W1-W5, Officer Unknown, O1-O6		
		0	76,360	99.5%
		1	394	0.5%
			76,754	
SEG168A	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American PAYGRADE=Enlisted Unknown, E1-E4 MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,696	99.9%
		1	58	0.1%
			76,754	
SEG168B	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American PAYGRADE=E5 MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,643	99.9%
		1	111	0.1%
			76,754	
SEG169A	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=Asia/Pacific Islander, Other		

		PAYGRADE=Enlisted Unknown, E1-E4		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,721	100.0%
		1	33	0.0%
			76,754	
SEG169B	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Asia/Pacific Islander, Other		
		PAYGRADE=E5		
		MINORITY DENSITY=Low (Enlisted, 8.1%-33.2%)		
		0	76,681	99.9%
		1	73	0.1%
			76,754	
SEG170A	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other		
		PAYGRADE=Enlisted Unknown, E1-E4		
		MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)		
		0	76,717	100.0%
		1	37	0.0%
			76,754	
SEG170B	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other		
		PAYGRADE=E5		
		MINORITY DENSITY=High (Enlisted, 33.5%-53.0%)		
		0	76,597	99.8%
		1	157	0.2%
			76,754	
SEG171	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=White, Other		
		PAYGRADE=E6		
		0	76,513	99.7%
		1	241	0.3%
			76,754	
SEG172	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY= Native American, Asia/Pacific Islander		
		PAYGRADE=E6		
		0	76,513	99.7%
		1	241	0.3%
			76,754	
SEG173A	3	Segment Created For Response Modeling		

		SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other PAYGRADE=E7-E9 REGION=Northeast US, North Central US		
		0	76,548	99.7%
		1	206	0.3%
			76,754	
SEG174A	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other PAYGRADE=E7-E9 REGION=Southern US, Western US		
		0	76,318	99.4%
		1	436	0.6%
			76,754	
SEG175AB	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other PAYGRADE=E7-E9 REGION=Europe, Asia/Pacific Islands, Other		
		0	76,729	100.0%
		1	25	0.0%
			76,754	
SEG176	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other PAYGRADE=W1-W5, Officer Unknown, O1-O6 EDUCATION=Less Than High School, High School Graduate, Some College		
		0	76,601	99.8%
		1	153	0.2%
			76,754	
SEG177	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=White, Native American, Asia/Pacific Islander, Other PAYGRADE=W1-W5, Officer Unknown, O1-O6 EDUCATION=College Graduate Or Higher		
		0	76,374	99.5%
		1	380	0.5%
			76,754	
SEG178A	3	Segment Created For Response Modeling SERVICE=AGR/TARs RACE/ETHNICITY=Black		

		PAYGRADE=Enlisted Unknown, E1-E4		
		0	76,708	99.9%
		1	46	0.1%
			76,754	
SEG178B	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Black		
		PAYGRADE=E5, E6		
		0	76,459	99.6%
		1	295	0.4%
			76,754	
SEG179	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Black		
		PAYGRADE=E7-E9		
		0	76,626	99.8%
		1	128	0.2%
			76,754	
SEG180B	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Black		
		PAYGRADE=W1-W5, Officer Unknown, O1-O6		
		0	76,548	99.7%
		1	206	0.3%
			76,754	
SEG181	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Hispanic		
		HISPANIC DENSITY=Low (Enlisted, 3.0%-6.3%), Low (Officer, 0.0%-2.8%), High (Officer, 2.8%-7.8%)		
		0	76,319	99.4%
		1	435	0.6%
			76,754	
SEG182	3	Segment Created For Response Modeling		
		SERVICE=AGR/TARs		
		RACE/ETHNICITY=Hispanic		
		HISPANIC DENSITY=High (Enlisted, 6.5%-8.5%)		
		0	76,481	99.6%
		1	273	0.4%
			76,754	
SVC1RAC1	4	Population Total For Whites In The Army		
		Value = 297,358	76,754	100%
SVC1RAC2	4	Population Total For Blacks In The Army		
		Value = 130,392	76,754	100%
SVC1RAC3	4	Population Total For Hispanics In The Army		
		Value =	76,754	100%

		27,918		
SVC1RAC4	4	Population Total For Native Americans In The Army Value = 3,077	76,754	100%
SVC1RAC5	4	Population Total For Asia/Pacific Islanders In The Army Value = 11,365	76,754	100%
SVC1RAC6	4	Population Total For Others In The Army Value = 15,413	76,754	100%
SVC2RAC1	4	Population Total For Whites In The Navy Value = 284,187	76,754	100%
SVC2RAC2	4	Population Total For Blacks In The Navy Value = 70,924	76,754	100%
SVC2RAC3	4	Population Total For Hispanics In The Navy Value = 30,735	76,754	100%
SVC2RAC4	4	Population Total For Native Americans In The Navy Value = 2,536	76,754	100%
SVC2RAC5	4	Population Total For Asia/Pacific Islanders In The Navy Value = 21,803	76,754	100%
SVC2RAC6	4	Population Total For Others In The Navy Value = 1,461	76,754	100%
SVC3RAC1	4	Population Total For Whites In The Marine Corps Value = 122,783	76,754	100%
SVC3RAC2	4	Population Total For Blacks In The Marine Corps Value = 27,431	76,754	100%
SVC3RAC3	4	Population Total For Hispanics In The Marine Corps Value = 18,008	76,754	100%
SVC3RAC4	4	Population Total For Native Americans In The Marine Corps Value = 1,499	76,754	100%
SVC3RAC5	4	Population Total For Asia/Pacific Islanders In The Marine Corps Value = 3,245	76,754	100%
SVC3RAC6	4	Population Total For Others In The Marine Corps Value = 1,911	76,754	100%
SVC4RAC1	4	Population Total For Whites In The Air Force Value = 297,806	76,754	100%

SVC4RAC2	4	Population Total For Blacks In The Air Force Value = 56,964	76,754	100%
SVC4RAC3	4	Population Total For Hispanics In The Air Force Value = 15,272	76,754	100%
SVC4RAC4	4	Population Total For Native Americans In The Air Force Value = 2,042	76,754	100%
SVC4RAC5	4	Population Total For Asia/Pacific Islanders In The Air Force Value = 8,031	76,754	100%
SVC4RAC6	4	Population Total For Others In The Air Force Value = 4,607	76,754	100%
SVC5RAC1	4	Population Total For Whites In The Coast Guard Value = 28,353	76,754	100%
SVC5RAC2	4	Population Total For Blacks In The Coast Guard Value = 2,275	76,754	100%
SVC5RAC3	4	Population Total For Hispanics In The Coast Guard Value = 2,011	76,754	100%
SVC5RAC4	4	Population Total For Native Americans In The Coast Guard Value = 781	76,754	100%
SVC5RAC5	4	Population Total For Asia/Pacific Islanders In The Coast Guard Value = 768	76,754	100%
SVC6RAC1	4	Population Total For Whites In The AGR/TARs Value = 49,756	76,754	100%
SVC6RAC2	4	Population Total For Blacks In The AGR/TARs Value = 8,377	76,754	100%
SVC6RAC3	4	Population Total For Hispanics In The AGR/TARs Value = 3,443	76,754	100%
SVC6RAC4	4	Population Total For Native Americans In The AGR/TARs Value = 535	76,754	100%
SVC6RAC5	4	Population Total For Asia/Pacific Islanders In The AGR/TARs Value = 1,368	76,754	100%
SVC6RAC6	4	Population Total For Others In The AGR/TARs Value = 435	76,754	100%

SAS Code Used for Constructing Variables

This section gives the SAS coded used for constructing variables on the files. Data from the ADMF and the RCCPDS were used in addition to data from the sample file. This appendix gives SAS code the following variables:

DENBLK2
DENHSP2
DENMNR2
EDLEVEL
ELIGFLGW
INELCODE
MISRELQS
MISSCNT
NRSPCODE
REGION3
RMARITAL
WGHT_FLG
SEG1A-SEG182

/**

The following section of SAS code was used to create the indicator variables to distinguish study respondents from the study nonrespondents (WGHT_FLG) and eligible respondents from ineligible respondents (ELIGFLGW). First, nonrespondents were identified from those questionnaires which were returned; those individuals who did not answer at least one item from questions 29, 30, or 31 were classified as nonrespondents. The number of missing items in questions 29, 30, and 31 was calculated (MISCTQ29, MISCTQ30, and MISCTQ31, respectively). If the sum of these three numbers (MISSCNT) equaled 57, then the study subject was classified as a nonrespondent. After identifying those subjects who did not answer the relevant questions from the questionnaires (MISRELQS), the response status code was created (RESPSTAT) using some additional variables from the survey control system:

BLKREAS	Reason survey returned blank
DISPO	Disposition variable
EF071096	July 10, 1996 eligibility code
EF101796	October 17, 1996 eligibility code
EFWAVE2	Wave 2 eligibility code
REFUSE	Refusal indicator
SCSINEL	Flagged ineligible in survey control system

From the response status code, the study respondent indicator (WGHT_FLG) and the eligibility indicator (ELIGFLGW) were created.

**/

```
PROC FORMAT;
        VALUE  misrelqs      0 = ">=1 Relevant Qs Answered"
                             1 = "0 Relevant Qs Answered";
        VALUE  respstat      1 = "Pre-Q Ineligibles"
                             2 = "Post-Q Ineligibles"
                             3 = "Respondents"
                             4 = "Refusals"
                             5 = "Not Locatables"
                             6 = "Nonrespondents"
                             7 = "Missing Q's";
RUN;

                                                          /* MISCTQ29 */
ARRAY Q29 EQ9629AA--EQ9629AO EQ9629BA--EQ9629BO;
MISCTQ29=0;
DO OVER Q29;
  IF 1<=Q29<=4 THEN MISCTQ29+0;  ELSE MISCTQ29+1;
END;
                                                          /* MISCTQ30 */
ARRAY Q30 EQ9630A--EQ9630Z;
MISCTQ30=0;



DO OVER Q30;
  IF 1<=Q30<=4 THEN MISCTQ30+0;  ELSE MISCTQ30+1;
END;

                                                          /* MISCTQ31 */
```

```
IF 1<=EQ9631<=2 THEN MISCTQ31=0;  ELSE MISCTQ31=1;

                                                                    /* MISSCNT */
MISSCNT = SUM(MISCTQ29,MISCTQ30,MISCTQ31);

                                                                  /* MISRELQS */
IF MISSCNT =57 THEN MISRELQS=1;
ELSE MISRELQS=0;

                                                                  /* RESPSTAT */
IF EFWAVE2=0 or EF071096=0 or EF101796=0 THEN RESPSTAT=1;
ELSE IF 1<=SCSINEL<=3 or SCSINEL=5 THEN RESPSTAT=2;
ELSE IF BLKREAS in (1,4,5,6,10) THEN RESPSTAT=2;
ELSE IF MISRELQS=0 THEN RESPSTAT=3;
ELSE IF REFUSE=1 THEN RESPSTAT=4;
ELSE IF DISPO=3 THEN RESPSTAT=5;
ELSE IF 5<=DISPO<=7 THEN RESPSTAT=6;
ELSE IF MISRELQS=1 THEN RESPSTAT=7;

                                                  /* WGHT_FLG and ELIGFLGW */
IF      RESPSTAT=1 THEN DO;  WGHT_FLG=1;  ELIGFLGW=0;  END;
ELSE IF RESPSTAT=2 THEN DO;  WGHT_FLG=1;  ELIGFLGW=0;  END;
ELSE IF RESPSTAT=3 THEN DO;  WGHT_FLG=1;  ELIGFLGW=1;  END;
ELSE IF RESPSTAT=4 THEN DO;  WGHT_FLG=0;  ELIGFLGW=.;  END;
ELSE IF RESPSTAT=5 THEN DO;  WGHT_FLG=0;  ELIGFLGW=.;  END;
ELSE IF RESPSTAT=6 THEN DO;  WGHT_FLG=0;  ELIGFLGW=.;  END;
ELSE IF RESPSTAT=7 THEN DO;  WGHT_FLG=0;  ELIGFLGW=1;  END;
```

/**********

The following section of SAS code was used to create the ineligibility status code variable for the ineligible study respondents (INELCODE). The variable was created using the response indicator variable (WGHT_FLG) and the following survey control system variables:

BLKREAS	Reason survey returned blank
EF071096	July 10, 1996 eligibility code
EF101796	October 17, 1996 eligibility code
EFWAVE2	Wave 2 eligibility code
SCSINEL	Flagged ineligible in survey control system

**********/

```
PROC FORMAT;
        VALUE  inelcode        0 = "Study Nonrespondents"
                               1 = "Ineligible Based On Military Records"
                               2 = "Self-Report Ineligible"
                               3 = "Eligible";
RUN;


IF EFWAVE2=0 or EF071096=0 or EF101796=0 THEN INELCODE=1;
ELSE IF BLKREAS in (1,4,5,6,10) THEN INELCODE=2;
ELSE IF 1<=SCSINEL<=3 or SCSINEL=5 THEN INELCODE=2;
ELSE IF WGHT_FLG=1 THEN INELCODE=3;
ELSE IF WGHT_FLG=0 THEN INELCODE=0;
```

```
/*****************************************************************************************
```
The following section of SAS code was used to create the nonrespondent status code variable for the study nonrespondents (NRSPCODE). The variable was created using the response indicator variable (WGHT_FLG), the response status code (RESPSTAT), and an indicator for why the questionnaire was returned blank (BLKREAS).

```
*****************************************************************************************/

PROC FORMAT;
        VALUE  rspcode 0 = "Study Respondent"
                       1 = "Refused participation"
                       2 = "Returned blank questionnaire"
                       3 = "Missing answers to all relevant questions"
                       4 = "Postal non-delivery"
                       5 = "Nonrespondent";


IF WGHT_FLG=1 THEN NRSPCODE=0;
ELSE IF RESPSTAT=4 THEN NRSPCODE=1;
ELSE IF RESPSTAT=5 THEN NRSPCODE=4;
ELSE IF RESPSTAT=7 THEN NRSPCODE=3;
ELSE IF RESPSTAT=6 THEN DO;
        IF 1<=BLKREAS<=11 THEN NRSPCODE=2;
        ELSE NRSPCODE=5;
END;
```

```
/*****************************************************************************************
The following section of SAS code was used to create a categorized education level variable (EDLEVEL). This
variable was created by recoding the educational certification variable (EDCERT) found in
position 21 of the ADMF and position 11 of the RCCPDS.

*****************************************************************************************/


PROC FORMAT;
        VALUE  edcert_          0 = "Unknown"
                                1 = "Less Than HS Diploma"
                                2 = "Currently In High School"
                                3 = "High School Senior"
                                4 = "GED"
                                5 = "Occup Program Completed"
                                6 = "Occup Program Attendance"
                                7 = "HS Homestudy Completed"
                                8 = "Adult Ed Diploma"
                                9 = "HS Attendance Certificate"
                                10 = "Home Study Diploma"
                                15 = "High School Diploma"
                                16 = "NHS Grad, 1 Semester College"
                                20 = "First Yr Of College Completed"
                                21 = "Associate Degree"
                                22 = "Prof Nursing Diploma"
                                23 = "Baccalaureate"
                                24 = "Master's Degree"
                                25 = "Post-Master's Degree"
                                26 = "Doctorate"
                                27 = "First Professional";
        VALUE  edlevel_         1 = "Less Than High School"
                                2 = "High School Graduate, Unknown"
                                3 = "Some College But Less Than 4-Year Degree"
                                4 = "4-Year College Graduate, Graduate School";
RUN;


IF EDCERT=0 THEN EDLEVEL=0;
IF 1 <= EDCERT <= 3 THEN EDLEVEL=1;
ELSE IF  4 <= EDCERT <= 15 THEN EDLEVEL=2;
ELSE IF 16 <= EDCERT <= 22 THEN EDLEVEL=3;
ELSE IF 23 <= EDCERT <= 27 THEN EDLEVEL=4;
IF EDLEVEL=0 THEN EDLEVEL=2;
```

```
/*****************************************************************************************
```
The following section of SAS code was used to create variables to categorize study subjects based on the percent Black (DENBLK2), percent Hispanic (DENHSP2), and percent minority (DENMNR2) in their occupation group. Subjects were first categorized as either officers or enlisted personnel (ENLOFF). The occupation group (OCCGROUP) was a recode of the DoD Duty Occupation Code (DDOC) obtained from positions 7-9 of the ADMF and the RCCPDS; this variable reflects the occupation in which the Service member was actually working . This computer code was provided by DMDC.

```
*****************************************************************************************/

PROC FORMAT;
        VALUE  enloff _         0 = "Officer"
                                1 = "Enlisted";
        VALUE  denblk2_         1 = "(Enlisted) Low 2.4%-22.3%"
                                2 = "(Enlisted) High 22.8%-38.1%"
                                3 = "(Officer) Low 0.0%-8.4%"
                                4 = "(Officer) High 8.4%-21.0%";
        VALUE  denhsp2_         1 = "(Enlisted) Low 3.0%-6.3%"
                                2 = "(Enlisted) High 6.5%-8.5%"
                                3 = "(Officer) Low 0.0%-2.8%"
                                4 = "(Officer) High 2.8%-7.8%";
        VALUE  denmnr2_         1 = "(Enlisted) Low 8.1%-33.2%"
                                2 = "(Enlisted) High 33.5%-53.0%"
                                3 = "(Officer) Low 0.0%-14.8%"
                                4 = "(Officer) High 15.0%-34.7%";
RUN;

                                                                        /* ENLOFF */
IF      PAY < 10 THEN ENLOFF=0;
ELSE IF PAY > 9  THEN ENLOFF=1;

                                                                        /* OCCGROUP */
IF      ENLOFF=0 THEN OCCGROUP = INT(DUTYOCC/10);
ELSE IF ENLOFF=1 THEN OCCGROUP = DUTYOCC;

                                                        /* DENBLACK, DENHISP, DENMINOR */
IF ENLOFF=0 THEN DO;
        IF OCCGROUP IN (43 21 14 19 75 13 11 45 42 23 70 63 91 66 15 60 95 67 79 10 86 24 5
                71 83 12 7 65 1 53 64 16 40 3 57 72 22 25 32 2 0 6 41 85 92 61)
                THEN DENBLACK = 1;
        IF OCCGROUP IN (30 49 76 31 62 52 50 56 54 90 33 4 20 81 69 55 82 74 34 26 51 84 80)
                THEN DENBLACK= 2;
        IF OCCGROUP IN (57 45 14 63 43 24 42 19 53 83 15 90 71 23 16 21 49 10 25 76 64 67
                11 40 70 26 61 32 13 66 7 60 41 72 22 20 54 80 34 81 62 3 86 50 56 2 75) THEN
                DENHISP  = 1;
        IF OCCGROUP IN (1 55 4 69 30 31 12 74 65 92 79 82 51 0 52 84 95 91 33 85 5 6)
                THEN DENHISP  = 2;
        IF OCCGROUP IN (43 21 14 45 19 42 11 13 63 23 67 24 10 15 70 83 75 79 60 71 53 86
                91 7 95 66 57 16 64 5 12 22 40 1 25 3 72 32 65 2 76 49 41 0 92 85 61) THEN
                DENMINOR = 1;
        IF OCCGROUP IN (6 62 30 90 52 20 50 31 56 81 4 54 26 33 55 34 74 51 82 69 84 80)
                THEN DENMINOR = 2;
  END;
```

```
   IF ENLOFF=1 THEN DO;
        IF OCCGROUP IN (514 901 201 502 202 204 504 203 410 102 601 101 501 414 712 702
              603 607 407 506 408 207 402 301 401 511 404 513 302 512 608 0 205 505 804
              707 303 706 413) THEN DENBLACK = 1;
        IF OCCGROUP IN (902 510 609 714 701 905 206 405 807 507 801 708 703 605 403 406
              806 704 705 803 802 411 412 805) THEN DENBLACK = 2;
        IF OCCGROUP IN (514 901 502 510 201 101 102 512 202 414 707 413 506 705 410 407
              203 513 507 204 807 401 607 404 511 804 402 902 406 608 603 601 205 207 703
              501 405 609) THEN DENHISP  = 1;
        IF OCCGROUP IN (702 706 408 801 605 905 714 301 803 303 708 403 0 701 302 206 712
              704 802 504 411 505 412 805 806) THEN DENHISP  = 2;
        IF OCCGROUP IN (514 201 502 202 102 414 204 410 203 101 501 607 506 702 513 407
              504 512 413 511 207 603 714 404 707 408 401 712 510 301 205 402 302 601 804
              608 0) THEN DENMINOR = 1;
        IF OCCGROUP IN (902 303 405 609 905 701 507 807 505 706 801 703 206 708 605 403
              406 705 803 901 411 704 802 412 806 805) THEN DENMINOR = 2;
END;

                                                        /* DENBLK2, DENHSP2, DENMNR2 */
IF CPAY NE 5 THEN DO;
        DENBLK2=DENBLACK;    DENHSP2=DENHISP;    DENMNR2=DENMINOR;
END;
ELSE IF CPAY=5 THEN DO;
        DENBLK2=DENBLACK+2;  DENHSP2=DENHISP+2;  DENMNR2=DENMINOR+2;
END;
```

/**

The following section of SAS code was used to create variables to identify the regions of the US or the world. First, the subject's location (MEMLOC) was categorized into inside and outside the US (CREGION). Using the subject's location of duty assignment (DUTYLOC) along with the previously mentioned variables, a world location variable was created (CNTYST). This location variable was collapsed into 4 categories (REGION). A second region variable was created for those subjects residing in the US (CENDIST). An overall location variable was created by combining the information in the variables CENDIST and REGION (REGION3). A significant portion of the code was provided by DMDC.

**/

```
PROC FORMAT;
        VALUE  memloc_      03 = "American Samoa"
                            14 = "Guam"
                            43 = "Puerto Rico"
                            52 = "US Virgin Islands"
                            57 = "Ashore overseas"
                            58 = "Afloat in Port Conus"
                            59 = "Afloat in Port Oconus"
                            60 = "Afloat at Sea";
        VALUE  cregion_     0 = "Unknown"
                            1 = "US"
                            2 = "Outside US";
        VALUE  region_      1 = "US including AK, HI, DC"
                            2 = "Europe"
                            3 = "Asia & Pacific Islands"
                            4 = "Other countries"
        VALUE  cendist_     1 = "North East"
                            2 = "North Central"
                            3 = "South"
                            4 = "West";
        VALUE  region3_     1 = "US, Northeast"
                            2 = "US. North Central"
                            3 = "US, South"
                            4 = "US, West"
                            5 = "Europe"
                            6 = "Asia,Pacific Islands"
                            7 = "Other"
                            8 = "Missing";
RUN;


                                                                    /*CREGION*/
IF MEMLOC = 0 OR MEMLOC >60 THEN CREGION=0;
ELSE IF MEMLOC IN (03 14 43 52 57 59 60) THEN CREGION=2;
ELSE CREGION=1;

                                                                    /* CNTYST */
IF CREGION=2 THEN DO;
        IF (DUTYLOC IN (3 7 14 43 52) OR 57<=DUTYLOC<=255) THEN
                CTYST=DUTYLOC;  /* OUS */
        ELSE CNTYST=255;  /* Unknown OUS */
        IF MEMLOC =60 THEN CNTYST=254;  /* Afloat At Sea */
END;
```

```
ELSE IF CREGION=1 THEN DO;
        CNTYST=1000;  /* Potentially Unknown US Location */
        IF 0<MEMLOC<57 AND MEMLOC NOT IN (3 14 43 52) THEN CNTYST=MEMLOC;
        IF MEMLOC=58 AND (DUTYLOC <57 AND DUTYLOC NOT IN (0 3 7 14 43 52))
                THEN CNTYST=DUTYLOC;
        IF MEMLOC IN (59) AND DUTYLOC IN (2 15) THEN CNTYST=DUTYLOC;
END;
ELSE IF CREGION=0 THEN CNTYST=0;

                                                                /* REGION */
IF CNTYST IN (001 002 004 005 006 008 009 010 011 012 013 015 016 017 018 019 020 021 022
        023 024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 044
        045 046 047 048 049 050 051 053 054 055 056 1000)
        THEN REGION = 1;
ELSE IF CNTYST IN (058 063 065 073 091 092 094 102 103 107 108 110 111 112 120 121 126
        128 148 156 161 169 170 174 189 194 195 202 204 216 219 241 245 246) THEN REGION=2;
ELSE IF CNTYST IN (003 014 062 074 076 084 101 119 123 131 134 135 137 145 157 165 168
        183 198 212 222 234) THEN REGION=3;
ELSE IF CNTYST IN (007 043 052 057 059 060 061 064 066 067 068 069 070 071 072 075 077
        078 079 080 081 082 083 085 086 087 088 089 090 093 095 096 097 098 099 100 104 105 106
        109 113 114 115 116 117 118 122 124 125 127 129 130 132 133 136 138 139 140 141 142 143
        144 146 147 149 150 151 152 153 154 155 158 159 160 162 163 164 166 167 171 173 175 176
        177 178 179 180 181 182 184 185 186 187 188 191 192 193 196 197 199 200 201 203 205 206
        207 208 209 210 211 214 215 217 218 220 221 223 224 225 226 227 228 229 230 231 232 233
        235 236 237 238 239 240 242 243 244 247 248 249 250 251 254 255) THEN REGION=4;
ELSE REGION=CNTYST;
                                                                /* CENDIST */
IF CNTYST IN (009 023 025 033 034 036 042 044 050) THEN CENDIST = 1;
ELSE IF CNTYST IN (017 018 019 020 026 027 029 031 038 039 046 055) THEN CENDIST = 2;
ELSE IF CNTYST IN (001 005 010 011 012 013 021 022 024 028 037 040 045 047 048 051 054)
         THEN CENDIST = 3;
ELSE IF CNTYST IN (002 004 006 008 015 016 030 032 035 041 049 053 056)
        THEN CENDIST = 4;
                                                                /* REGION3 */
IF 1<=CENDIST<=4 THEN REGION3=CENDIST;
ELSE IF  2<=REGION<=4 THEN REGION3=REGION+3;
ELSE REGION3=8;
IF STRATUM NE  255 AND REGION3=8 THEN REGION3=3;
```

```
/*****************************************************************************************
This section of SAS code creates a marital status variable (RMARITAL) used to create the nonresponse weight
adjustments. This variable was created by recoding the marital status variable (MARRYNUM) from the survey
control system.

*****************************************************************************************/


PROC FORMAT;
        VALUE marrynum      0 = "Missing or Unknown"
                            1 = "Single"
                            2 = "Married"
                            9 = "No match";
        VALUE rmarital      0 = "Missing or Unknown"
                            1 = "Single"
                            2 = "Married";
RUN;


RMARITAL=MARRYNUM;
IF MARRYNUM  IN (0,9) THEN RMARITAL=0;
IF RMARITAL=0 THEN RMARITAL=1;
```

/**********

This section of SAS code creates the segments used in the nonresponse weight adjustments. These segments take the value 0 or 1. The segments are created from values of the following variables:

CRACE	Race/ethnicity variable used for sampling
CSERVICE	Branch of the service variable used for sampling
DENBLK2	Recode of Black density in the sampled person's occupation group, created by earlier code in this section
DENHSP2	Recode of Hispanic density in the sampled person's occupation group, created by earlier code in this section
DENMNR2	Recode of minority density in the sampled person's occupation group, created by earlier code in this section
DPLOYIND	Deployment indicator, from the EOS Sample File position 145
EDLEVEL	Level of education, created by earlier code in this section
GENDER	Gender, with unknowns coded as Males
PAY	Individual levels of paygrade, from positions 14 and 15 of the ADMF and positions 15 and 16 of the RCCPDS
REGION3	Region of the US or world, created by earlier code in this section
RMARITAL	Marital status, with unknowns coded as "Single"

**********/

```
SEG1A    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2=1) & (REGION3 in (1,2,3,4));
SEG1B    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2=1) & (REGION3 in (5));
SEG2     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2=1) & (REGION3 in (6,7));
SEG3     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2 in (2,3,4)) & (DPLOYIND=0) & (CRACE in (1,3));
SEG4     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2 in (2,3,4)) & (DPLOYIND=0) & (CRACE in (4,6));
SEG5     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) &
           (DENMNR2=1) & (DENHSP2 in (2,3,4)) & (DPLOYIND=1);
SEG6     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=1) & (DENMNR2
           in (2,3,4));
SEG7     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=2) &
           (DENMNR2=1);
SEG8     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (1,2,3)) & (GENDER=2) & (DENMNR2
           in (2,3,4));
SEG9     = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (0,4)) & (EDLEVEL in (1,2)) &
           (RMARITAL=1);
SEG10    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (0,4)) & (EDLEVEL in (1,2)) &
           (RMARITAL=2);
SEG11    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (0,4)) & (EDLEVEL in (3,4));
SEG12    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=5) & (REGION3 in (1,2,3));
SEG13    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=5) & (REGION3=4);
SEG14    = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=5) & (REGION3 in (5,6,7));
SEG15A   = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=6) & (EDLEVEL in (1,2)) & (CRACE in
           (1,3,4));
SEG15B   = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (7,8)) & (EDLEVEL in (1,2)) & (CRACE
           in (1,3,4));
SEG16A   = (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=6) & (EDLEVEL in (1,2)) & (CRACE=6);
```

```
SEG16B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (7,8)) & (EDLEVEL in (1,2)) &
            (CRACE=6);
SEG17A   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=6) & (EDLEVEL in (3,4)) &
            (RMARITAL=1);
SEG17B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (7,8)) & (EDLEVEL in (3,4)) &
            (RMARITAL=1);
SEG18A   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=6) & (EDLEVEL in (3,4)) &
            (RMARITAL=2);
SEG18B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (7,8)) & (EDLEVEL in (3,4)) &
            (RMARITAL=2);
SEG19A   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=9) & (DENMNR2 in (1,2,4));
SEG19B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (11,12,13,14,15,20)) & (DENMNR2 in
            (1,2,4));
SEG20B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (11,12,13,14,15,20)) & (DENMNR2=3)
            & (EDLEVEL in (1,2,3));
SEG21B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (11,12,13,14,15,20)) & (DENMNR2=3)
            & (EDLEVEL=4);
SEG22    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (21,22)) & (GENDER=1);
SEG23    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (21,22)) & (GENDER=2);
SEG24    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=23);
SEG25    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=24) & (RMARITAL=1);
SEG26    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=24) & (RMARITAL=2) & (REGION3 in
            (1,2,3));
SEG27A   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=24) & (RMARITAL=2) & (REGION3=4);
SEG27B   =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY=24) & (RMARITAL=2) & (REGION3 in
            (5,6,7));
SEG28    =  (CSERVICE=1) & (CRACE in (1,3,4,6)) & (PAY in (25,26));
SEG29    =  (CSERVICE=1) & (CRACE=2) & (PAY=1);
SEG30    =  (CSERVICE=1) & (CRACE=2) & (PAY in (2,3));
SEG31    =  (CSERVICE=1) & (CRACE=2) & (PAY in (0,4)) & (GENDER=1);
SEG32    =  (CSERVICE=1) & (CRACE=2) & (PAY in (0,4)) & (GENDER=2);
SEG33    =  (CSERVICE=1) & (CRACE=2) & (PAY=5);
SEG34    =  (CSERVICE=1) & (CRACE=2) & (PAY=6);
SEG35    =  (CSERVICE=1) & (CRACE=2) & (PAY=7);
SEG36    =  (CSERVICE=1) & (CRACE=2) & (PAY in (8,9));
SEG37    =  (CSERVICE=1) & (CRACE=2) & (PAY=11);
SEG38    =  (CSERVICE=1) & (CRACE=2) & (PAY in (12,13,14,15,20));
SEG39    =  (CSERVICE=1) & (CRACE=2) & (PAY in (21,22)) & (DENHSP2=3);
SEG40    =  (CSERVICE=1) & (CRACE=2) & (PAY in (21,22)) & (DENHSP2 in (1,2,4));
SEG41    =  (CSERVICE=1) & (CRACE=2) & (PAY in (23,24)) & (RMARITAL=1);
SEG42    =  (CSERVICE=1) & (CRACE=2) & (PAY in (23,24)) & (RMARITAL=2);
SEG43    =  (CSERVICE=1) & (CRACE=2) & (PAY in (25,26));
SEG44    =  (CSERVICE=1) & (CRACE=5) & (PAY in (1,2,3)) & (DENMNR2=1);
SEG45    =  (CSERVICE=1) & (CRACE=5) & (PAY in (1,2,3)) & (DENMNR2 in (2,3,4));
SEG46    =  (CSERVICE=1) & (CRACE=5) & (PAY in (0,4)) & (EDLEVEL in (1,2)) & (GENDER=1);
SEG47    =  (CSERVICE=1) & (CRACE=5) & (PAY in (0,4)) & (EDLEVEL in (1,2)) & (GENDER=2);
SEG48    =  (CSERVICE=1) & (CRACE=5) & (PAY in (0,4)) & (EDLEVEL in (3,4));
SEG49    =  (CSERVICE=1) & (CRACE=5) & (PAY in (5,6)) & (DENHSP2=1);
SEG50    =  (CSERVICE=1) & (CRACE=5) & (PAY in (5,6)) & (DENHSP2 in (2,3,4)) &
            (RMARITAL=1);
SEG51    =  (CSERVICE=1) & (CRACE=5) & (PAY in (5,6)) & (DENHSP2 in (2,3,4)) &
            (RMARITAL=2);
SEG52A   =  (CSERVICE=1) & (CRACE=5) & (PAY in (7,8,9));
SEG52B   =  (CSERVICE=1) & (CRACE=5) & (PAY>=11);
```

SEG53 = (CSERVICE=2) & (CRACE=1) & (PAY in (1,2)) & (REGION3 in (1,2,3));
SEG54A = (CSERVICE=2) & (CRACE=1) & (PAY in (1,2)) & (REGION3=4);
SEG54B = (CSERVICE=2) & (CRACE=1) & (PAY in (1,2)) & (REGION3 in (5,6,7));
SEG55 = (CSERVICE=2) & (CRACE=1) & (PAY=3);
SEG56A = (CSERVICE=2) & (CRACE=1) & (PAY in (0,4)) & (REGION3 in (1,2,3,4));
SEG56B = (CSERVICE=2) & (CRACE=1) & (PAY=5) & (REGION3 in (1,2,3,4));
SEG57A = (CSERVICE=2) & (CRACE=1) & (PAY in (0,4)) & (REGION3 in (5,6));
SEG57B = (CSERVICE=2) & (CRACE=1) & (PAY in (5)) & (REGION3 in (5,6));
SEG58A = (CSERVICE=2) & (CRACE=1) & (PAY in (0,4)) & (REGION3=7);
SEG58B = (CSERVICE=2) & (CRACE=1) & (PAY in (5)) & (REGION3=7);
SEG59 = (CSERVICE=2) & (CRACE=1) & (PAY=6);
SEG60A = (CSERVICE=2) & (CRACE=1) & (PAY in (7,8,9)) & (REGION3 in (1,2,3));
SEG60B = (CSERVICE=2) & (CRACE=1) & (PAY in (11,12,13,14,15,20,21,22,23)) & (REGION3 in (1,2,3));
SEG61A = (CSERVICE=2) & (CRACE=1) & (PAY in (7,8,9)) & (REGION3=4);
SEG61B = (CSERVICE=2) & (CRACE=1) & (PAY in (11,12,13,14,15,20,21,22,23)) & (REGION3=4);
SEG62A = (CSERVICE=2) & (CRACE=1) & (PAY in (7,8,9)) & (REGION3 in (5,6,7));
SEG62B = (CSERVICE=2) & (CRACE=1) & (PAY in (11,12,13,14,15,20,21,22,23)) & (REGION3 in (5,6,7));
SEG63 = (CSERVICE=2) & (CRACE=1) & (PAY>=24);
SEG64 = (CSERVICE=2) & (CRACE=2) & (PAY in (1,2,3));
SEG65 = (CSERVICE=2) & (CRACE=2) & (PAY in (0,4));
SEG66 = (CSERVICE=2) & (CRACE=2) & (PAY=5) & (REGION3 in (1,2,3));
SEG67A = (CSERVICE=2) & (CRACE=2) & (PAY=5) & (REGION3=4) & (DENMNR2=1);
SEG67B = (CSERVICE=2) & (CRACE=2) & (PAY=5) & (REGION3 in (5,6,7)) & (DENMNR2=1);
SEG68A = (CSERVICE=2) & (CRACE=2) & (PAY=5) & (REGION3=4) & (DENMNR2 IN (2,3,4));
SEG68B = (CSERVICE=2) & (CRACE=2) & (PAY=5) & (REGION3 in (5,6,7)) & (DENMNR2 IN (2,3,4));
SEG69 = (CSERVICE=2) & (CRACE=2) & (PAY=6) & (RMARITAL=1);
SEG70 = (CSERVICE=2) & (CRACE=2) & (PAY=6) & (RMARITAL=2);
SEG71A = (CSERVICE=2) & (CRACE=2) & (PAY in (7,8,9)) & (GENDER IN (1,2));
SEG71B = (CSERVICE=2) & (CRACE=2) & (PAY in (11,12,13,14,15,20,21,22,23,24,25,26)) & (GENDER=1);
SEG72B = (CSERVICE=2) & (CRACE=2) & (PAY in (11,12,13,14,15,20,21,22,23,24,25,26)) & (GENDER=2);
SEG73 = (CSERVICE=2) & (CRACE in (3,4)) & (PAY=1) & (REGION3 in (1,2,3));
SEG74A = (CSERVICE=2) & (CRACE in (3,4)) & (PAY=1) & (REGION3=4);
SEG74B = (CSERVICE=2) & (CRACE in (3,4)) & (PAY=1) & (REGION3 in (5,6,7));
SEG75 = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3 in (1,2));
SEG76 = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3=3);
SEG77A = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3=4) & (DPLOYIND=0);
SEG77B = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3 in (5,6,7)) & (DPLOYIND=0);
SEG78A = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3=4) & (DPLOYIND=1);
SEG78B = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (2,3)) & (REGION3 in (5,6,7)) & (DPLOYIND=1);
SEG79AA = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (0,4)) & (REGION3 in (1,2,3,4));
SEG79AB = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (0,4)) & (REGION3=5);
SEG79BA = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (5,6)) & (REGION3 in (1,2,3,4));
SEG79BB = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (5,6)) & (REGION3=5);
SEG80A = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (0,4)) & (REGION3=6);
SEG80B = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (5,6)) & (REGION3=6);
SEG81A = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (0,4)) & (REGION3=7);
SEG81B = (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (5,6)) & (REGION3=7);

```
SEG82A    =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (7,8,9)) & (REGION3 in (1,2,3,4));
SEG82B    =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (11,12,13,14,15)) & (REGION3 in
             (1,2,3,4,5,6,7));
SEG83AB   =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (7,8,9)) & (REGION3 in (5,6,7));
SEG84     =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (20,21));
SEG85     =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (22,23));
SEG86     =  (CSERVICE=2) & (CRACE in (3,4)) & (PAY in (24,25,26));
SEG87     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY=1);
SEG88     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (2,3));
SEG89AA   =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (0,4)) & (REGION3 in (1,2,3,4));
SEG89BA   =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (5,6)) & (REGION3 in (1,2,3,4));
SEG89BB   =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (5,6)) & (REGION3=5);
SEG90A    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY IN (0,4)) & (REGION3 in (5,6,7));
SEG90B    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (5,6)) & (REGION3 in (6,7));
SEG92A    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (7,8,9)) & (RMARITAL=1);
SEG92B    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (11,12,13,14,15,20,21)) & (RMARITAL=1);
SEG93A    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (7,8,9)) & (RMARITAL=2);
SEG93B    =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (11,12,13,14,15,20,21)) & (RMARITAL=2);
SEG94     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (22,23)) & (RMARITAL=1) &
             (DENBLK2=3);
SEG95     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (22,23)) & (RMARITAL=1) & (DENBLK2
             in (1,2,4));
SEG96     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (22,23)) & (RMARITAL=2);
SEG97     =  (CSERVICE=2) & (CRACE in (5,6)) & (PAY in (24,25,26));
SEG98     =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (1,2,3)) & (CRACE in (1,6));
SEG99     =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (1,2,3)) & (CRACE=5);
SEG100    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (0,4)) & (RMARITAL=1);
SEG101    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (0,4)) & (RMARITAL=2);
SEG102    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY=5);
SEG103A   =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY=6);
SEG103B   =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (7,8,9));
SEG104    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (11,12,13,14,15,10,20,21,22,23,26)) &
             (CRACE=1);
SEG105    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY in (11,12,13,14,15,10,20,21,22,23,26)) &
             (CRACE in (5,6));
SEG106    =  (CSERVICE=3) & (CRACE in (1,5,6)) & (PAY IN (24,25));
SEG107    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (1,2,3)) & (CRACE=2);
SEG108    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (1,2,3)) & (CRACE in (3,4));
SEG109    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (0,4)) & (RMARITAL=1);
SEG110    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (0,4)) & (RMARITAL=2) & (CRACE=2);
SEG111    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY=4) & (RMARITAL=2) & (CRACE in (3,4));
SEG112    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (5,6)) & (CRACE=2);
SEG113    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (5,6)) & (CRACE in (3,4));
SEG114    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY=7);
SEG115A   =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (8,9));
SEG115B   =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (11,12,13,14,15,20));
SEG116    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY in (21,22,23));
SEG117    =  (CSERVICE=3) & (CRACE in (2,3,4)) & (PAY >=24);
SEG118    =  (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (1,2));
SEG119    =  (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3 in (1,2,3)) & (PAY=3);
SEG120    =  (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3 in (1,2,3)) & (PAY in
             (0,4));
SEG121A   =  (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3=4) & (RMARITAL IN
             (1,2)) & (PAY=3);
```

```
SEG121B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3 in (5,6,7)) &
            (RMARITAL  IN (1,2)) & (PAY=3);
SEG122A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3=4) & (RMARITAL=1)
            & (PAY in (0,4)) & (GENDER=1);
SEG122B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3 in (5,6,7)) &
            (RMARITAL=1) & (PAY in (0,4)) & (GENDER=1);
SEG123A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3=4) & (RMARITAL=1)
            & (PAY in (0,4)) & (GENDER=2);
SEG123B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,3,4)) & (REGION3 in (5,6,7)) &
            (RMARITAL=1) & (PAY in (0,4)) & (GENDER=2);
SEG124BA  = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,4)) & (REGION3=4) & (RMARITAL=2);
SEG124BB  = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (0,4)) & (REGION3 in (5,6,7)) &
            (RMARITAL=2);
SEG125A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (5,6)) & (GENDER=1) & (PAY=5);
SEG126A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (5,6)) & (GENDER=1) & (PAY in (6,7));
SEG126B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY=7) & (GENDER=1) & (PAY in (6,7));
SEG127A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (5,6)) & (GENDER=2) & (CRACE=1);
SEG127B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY=7) & (GENDER=2) & (CRACE=1);
SEG128A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (5,6)) & (GENDER=2) & (CRACE=4);
SEG128B   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY=7) & (GENDER=2) & (CRACE=4);
SEG129A   = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (8,9));
SEG130    = (CSERVICE=4) & (CRACE in (1,4)) & (PAY in (21,22,23,24));
SEG131    = (CSERVICE=4) & (CRACE in (1,4)) & (PAY >=25);
SEG132    = (CSERVICE=4) & (CRACE=2) & (PAY in (0,1,2,3,4)) & (GENDER=1);
SEG133    = (CSERVICE=4) & (CRACE=2) & (PAY in (0,1,2,3,4)) & (GENDER=2);
SEG134    = (CSERVICE=4) & (CRACE=2) & (PAY=5);
SEG135A   = (CSERVICE=4) & (CRACE=2) & (PAY in (6));
SEG135B   = (CSERVICE=4) & (CRACE=2) & (PAY in (7,8,9));
SEG135C   = (CSERVICE=4) & (CRACE=2) & (PAY in (11,12,13,14,15,20,21,22));
SEG136    = (CSERVICE=4) & (CRACE=2) & (PAY>=23) & (GENDER=1);
SEG137    = (CSERVICE=4) & (CRACE=2) & (PAY>=23) & (GENDER=2);
SEG138    = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (1,2));
SEG139    = (CSERVICE=4) & (CRACE=3) & (EDLEVEL=3) & (0<=PAY<=4);
SEG140A   = (CSERVICE=4) & (CRACE=3) & (EDLEVEL=3) & (5<=PAY<=25) & (DENMNR2=1);
SEG141A   = (CSERVICE=4) & (CRACE=3) & (EDLEVEL=3) & (5<=PAY<=25) & (DENMNR2 IN
            (2,3,4));
SEG142    = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (4)) & (REGION3 in (1,2,3)) & (DENHSP2
            in (2,3)) & (REGION3 in (1,2));
SEG143    = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (4)) & (REGION3 in (1,2,3)) & (DENHSP2
            in (2,3)) & (REGION3=3);
SEG144    = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (4)) & (REGION3 in (1,2,3)) & (DENHSP2
            in (1,4));
SEG145A   = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (4)) & (REGION3=4);
SEG145B   = (CSERVICE=4) & (CRACE=3) & (EDLEVEL in (4)) & (REGION3 in (5,6,7));
SEG146    = (CSERVICE=4) & (CRACE in (5,6)) & (PAY in (0,1,2,3,4));
SEG147    = (CSERVICE=4) & (CRACE in (5,6)) & (5<=PAY<=24) & (DENMNR2 in (1,3)) &
            (DENHSP2 in (1,3));
SEG148    = (CSERVICE=4) & (CRACE in (5,6)) & (5<=PAY<=24) & (DENMNR2 in (1,3)) &
            (DENHSP2 in (2,4));
SEG149    = (CSERVICE=4) & (CRACE in (5,6)) & (5<=PAY<=24) & (DENMNR2 in (2,4)) &
            (RMARITAL=1);
SEG150    = (CSERVICE=4) & (CRACE in (5,6)) & (5<=PAY<=24) & (DENMNR2 in (2,4)) &
            (RMARITAL=2) & (DENHSP2 IN(1,2,3));
```

```
SEG151    =  (CSERVICE=4) & (CRACE in (5,6)) & (5<=PAY<=24) & (DENMNR2 in (2,4)) &
             (RMARITAL=2) & (DENHSP2=4);
SEG152    =  (CSERVICE=4) & (CRACE in (5,6)) & (PAY>=25);
SEG153    =  (CSERVICE=5) & (CRACE=1) & (PAY in (1,2,3));
SEG154    =  (CSERVICE=5) & (CRACE=1) & (PAY in (0,4));
SEG155    =  (CSERVICE=5) & (CRACE=1) & (PAY in (5,6,7,8,9));
SEG156    =  (CSERVICE=5) & (CRACE=1) & (PAY >= 10);
SEG157    =  (CSERVICE=5) & (CRACE in (2,4)) & (PAY in (0,1,2,3,4)) & (CRACE=2);
SEG158    =  (CSERVICE=5) & (CRACE in (2,4)) & (PAY in (0,1,2,3,4)) & (CRACE=4);
SEG159    =  (CSERVICE=5) & (CRACE in (2,4)) & (PAY in (5,6)) & (CRACE=2);
SEG160    =  (CSERVICE=5) & (CRACE in (2,4)) & (PAY in (5,6)) & (CRACE=4);
SEG161A   =  (CSERVICE=5) & (CRACE in (2,4)) & (7<=PAY<=9);
SEG161B   =  (CSERVICE=5) & (CRACE in (2,4)) & (11<=PAY<=22);
SEG162    =  (CSERVICE=5) & (CRACE in (2,4)) & (PAY>=23);
SEG163    =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY in (1,2,3));
SEG164    =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY in (0,4));
SEG165    =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY=5);
SEG166    =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY IN (6,7));
SEG167A   =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY in (8,9));
SEG167B   =  (CSERVICE=5) & (CRACE in (3,5,6)) & (PAY>=11);
SEG168A   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (0,1,2,3,4)) & (DENMNR2=1) &
             (CRACE in (1,4));
SEG168B   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY=5) & (DENMNR2=1) & (CRACE in (1,4));
SEG169A   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (0,1,2,3,4)) & (DENMNR2=1) &
             (CRACE in (5,6));
SEG169B   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY=5) & (DENMNR2=1) & (CRACE in (5,6));
SEG170A   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (0,1,2,3,4)) & (DENMNR2 in (2,3,4));
SEG170B   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY=5) & (DENMNR2 in (2,3,4));
SEG171    =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY=6) & (CRACE in (1,6));
SEG172    =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY=6) & (CRACE in (4,5));
SEG173A   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (7,8,9)) & (REGION3 in (1,2));
SEG174A   =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (7,8,9)) & (REGION3 IN (3,4));
SEG175AB  =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY in (7,8,9)) & (REGION3 in (5,6,7));
SEG176    =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY>=11) & (EDLEVEL in (1,2,3));
SEG177    =  (CSERVICE=6) & (CRACE in (1,4,5,6)) & (PAY>=11) & (EDLEVEL=4);
SEG178A   =  (CSERVICE=6) & (CRACE=2) & (PAY in (0,1,2,3,4));
SEG178B   =  (CSERVICE=6) & (CRACE=2) & (PAY in (5,6));
SEG179    =  (CSERVICE=6) & (CRACE=2) & (PAY in (7,8,9));
SEG180B   =  (CSERVICE=6) & (CRACE=2) & (PAY>=11);
SEG181    =  (CSERVICE=6) & (CRACE=3) & (DENHSP2 in (1,3,4));
SEG182    =  (CSERVICE=6) & (CRACE=3) & (DENHSP2=2);
```

Appendix G

Glossary

Words in the glossary have been cross-referenced. If a word used in a definition has its own entry in the glossary the word appears in italics.

ADMF: Active Duty Master File

AGR/TAR: Members of the National Guard and Reserve currently on active-duty.

Analysis Weight: A *sampling weight* that has been modified to compensate for missing data or for other reasons.

Bias: The difference between the *expected value* of an estimate of a *parameter* and the value of the *parameter* itself.

Coefficient of Variation: The ratio of the *standard error* of a *parameter* estimate to the value of the *parameter*.

Confidence Interval: The *random interval* expected to contain a *parameter* value with a specified probability. In the context of repeated sampling, the specified probability is the proportion of intervals computed for all possible samples that contain the *parameter* value.

Confidence Interval Half-Width: Computed as one-half the width of the confidence interval. 95% confidence intervals are used in this report, and the half-width is computed as 1.96 times the standard error of the estimate.

Criterion Variable: Also called *dependent variable*.

Dependent Variable: In a regression equation, the random variable y is a function of other variables $x_1, x_2, \ldots, x_p$. For example, $y=f(x_1, x_2, \ldots, x_p) + e$, where the function f might be a linear equation, logistic equation, or other function. y is called the dependent variable and $x_1, x_2, \ldots, x_p$ are the *independent* variables. The "e" is a random error term.

Design Effect: The ratio of the variance of a *parameter* estimate obtained using a specified sampling design to the variance that would be obtained using a simple random sampling design with the same number of observations. Components of the design effect might include a stratification effect, clustering effect, *unequal weighting effect*, and finite population effect.

Dimensions of Stratification: Defined by the variables used in constructing strata.

DMDC: Defense Manpower Data Center.

Domain: Any subpopulation defined within the *inferential population*.

EOS: Equal Opportunity Survey.

Estimation Procedures: The form of the calculations used to compute sample estimates of population *parameters* and their associated variance-covariance structure. In general, the appropriate estimation procedures are derived from the probability structure used to obtain the observations.

Equal Opportunity Survey: The survey undertaken in 1996 to assess racial/ethnic issues in the active-duty military force.

Expected Value: The mean of a *random variable* or function of random variables.

Explanatory Variable: Also called *independent variable*.

Finite Population Correction Factor: The factor $1-\frac{n_h}{N_h}$ is the proportion of stratum h that is not included in the sample. It results from sampling from a finite population, and multiplies the variance obtained using a random sample of size n_h from an infinite population. This factor reduces the estimated variance.

FPC: *Finite population correction factor*

Inferential Population: The totality of units about which inferences are to be drawn or conclusions reached. Often referred to as the target population.

Independent Variable: See *dependent variable*.

Item Nonresponse: Occurs whenever only partial information is secured for a *unit of observation.*

Key Domain: A subpopulation defined within the *inferential population* identified for use in determining the *sample size* and allocation.

Levels of Stratification: Defined by the values of the variables used to construct the strata.

Linear Statistic: A *statistic* computed as the sum and/or difference of *random variables*.

Mean Square Error: Squares of the average of the deviation of each estimate from the true value, averaged over all possible samples. It is distinguished from the variance in that the variance

is measured by taking deviations from the expected value of the estimates. The mean square error is also equal to Variance + $Bias^2$.

Missing Data Compensation Procedures: Modifications made to the *estimation procedure* to reduce or eliminate biases arising in association with *noncoverage* and/or *undercoverage*.

Noncoverage: Any failure to assign a positive *selection probability* to every unit in the *inferential population*.

Nonlinear Statistic: A *statistic* computed as the product or quotient of *random variables*. In matrix algebra, the concept of a quotient is replaced by the concept of a product formed with the inverse of a matrix.

Nonresponse: Occurs whenever one or more of the observation or response variable values required to compute a *parameter* estimate is missing or unknown.

Number of Observations: For this survey, refers to the number of persons eligible to participate in the survey who returned a questionnaire with key items completed.

Parameter: A constant expressing a defined property of a population or distribution, such as its mean or variance.

Population Variance: The average over all of the units in the population of the squared differences between the values of an observation or response variable and its mean.

Precision Requirements: The maximum values of the *sampling variances* to be associated with the sample estimates of specified *parameters*.

Poststratification: A partition, in the mathematical sense, of the population constructed using response variable values obtained for a sample. Each unit in the population belongs to but one post-stratum, and the set of all post-strata includes all individuals in the population.

Poststratification Adjustment: A modification made to the *analysis weights* to force the sample estimates of selected parameters to equal specified or known values.

Random Interval: An interval having a *random variable* as at least one of its end points

Random Variable: A function whose domain is a *sample space* and whose range is a set of real numbers.

RCCPDS: Reserve Components Common Personnel Data System.

Respondents: Individuals who returned a questionnaire with usable responses to questions about uninvited and unwanted racial behaviors (questions 29, 30, and 31).

Respondent Burden: The effort, usually time, required by an individual to fully respond to a survey.

Response Propensity Weight Adjustment: The inverse of the predicted probability of nonresponse. The predicted probability is computed from a logistic regression model where the independent variable is a 0-1 response indicator.

Response Rate: Defined as $\frac{\text{eligible respondents} + \text{known ineligibles}}{\text{total sample}}$.

SAFS: Status of the Armed Forces Surveys.

Sample Size: The number of *sampling units* selected into the sample. Note that the sample size is not necessarily equivalent to the number of observations. The number of observations obtained in a given sample can be less than, equal to, or greater than the sample size depending on the *sampling design* and *response rate*.

Sample Space: A set associated with a real or conceptual experimental or sampling design such that each element of the set denotes an outcome of an implementation of the design and any implementation of the design produces an outcome that corresponds to one and only one element of the set.

Sampling Design: The probability structure used to obtain a collection of observations.

Sampling Error: The difference between a *parameter* value as determined from a sample and the value as determined by taking a complete count or census using the same methods of measurement.

Sampling Frame: A finite set of listing units with the information needed to identify, distinguish, and allow access to the units comprising the *inferential population* and with the auxiliary information needed for implementing the *sampling design*.

Sampling Units: The units to which the *selection probabilities* or *selection frequencies* are assigned.

Sampling Weight: The inverse of the expected *selection frequency*.

Sampling Variance: The average over all possible samples of the squares of the *sampling errors*.

Selection Frequency: The *selection probability* multiplied by the *sample size*.

Selection Probability: The probability with which a *sampling unit* is selected into the sample.

Standard Error: The square root of the *sampling variance*.

Statistic: A function of the observations obtained in a sample.

Stratification: A partitioning, in the mathematical sense, of the *inferential population* used to control the distribution of the sample. Each unit in the population belongs to but one stratum, and the set of all strata includes all individuals in the population.

Unbiased: The difference between the *expected value* of an estimate of a *parameter* and the value of the *parameter* itself is zero.

Undercoverage: Any failure to obtain information for all of the *units of observation* in a selected sample.

Unequal Weighting Effects: The effect on the *sampling variance* of unequal weighting of the observations. The effect is in the direction of increasing the sampling variances relative to equal weights unless the unequal weights are proportional to the values of the observation variables.

Unit Nonresponse: Occurs when no information is secured for a *unit of observation*.

Unit of Observation: The units on which observations are made or from which measurements or responses are obtained.

Unit Response Propensity: A sampled member's probability of responding to the survey.

Variable Survey Cost: That part of the total cost of a survey that depends on the sample size and allocation. Variable survey costs are contrasted with fixed survey costs, which remain constant regardless of the sample size.

Weighting Class: A grouping together of nonrespondents and *respondents* thought to have the same average response variable values.

Weighting Class Adjustments: The ratio of the sum of the *sampling weights* over all of the units in a defined *weighting class* divided by the sum of the sampling weights over all *respondents* in the same class.

Without Replacement: Once selected, a sampling unit is not at risk of being selected again in the same sample.

Appendix H

Report Documentation Page

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave Blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	01 Dec 97	Final (24 Aug 96 -- 28 Feb 97)

4. TITLE AND SUBTITLE
Armed Forces 1996 Equal Opportunity Survey:
Statistical Methodology Report

5. FUNDING NUMBERS

6. AUTHOR(S)
Sara C. Wheeless, Robert E. Mason, Jill D. Kavee, (RTI)
Richard A. Riemer, Timothy W. Elig (DMDC)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Research Triangle Institute, 3040 Cornwallis Road, PO BOX 12194, Research Triangle Park, NC 27709-2194

8. PERFORMING ORGANIZATION REPORT NUMBER
C - DASW01-94-H-0002
(DO No. 0001)

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
Defense Manpower Data Center (DMDC), Survey & Program Evaluation Division, 1600 Wilson Boulevard Suite 400, Arlington, VA 22209-2593

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
97-025

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release;
distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT ***(Maximum 200 words)***

This report describes the sampling design, sample selection, estimation procedures, and the missing data compensation procedures used for the Armed Forces 1996 Equal Opportunity Survey (EOS). The population of inferential interest for the EOS consisted of the worldwide distribution of active-duty Army, Navy, Marine Corps, Air Force, and Coast Guard members (including Reservists on active duty) below the rank of admiral or general, with at least six months of active-duty service. The main purposes of the survey were to provide survey data on types, frequency, and effects of racial/ethnic harassment and discrimination experienced by active-duty military; context, location, and circumstances under which the experiences occur; racial climate within the larger organizational climate; characteristics of the complaint process; and effectiveness of current policies/training designed to prevent, reduce, and eliminate racial/ethnic harassment and discrimination. Data collection was by mail starting August 1996 to a stratified random sample of 76,754 service members. Usable surveys were completed by 39,855. After making adjustments for eligibility and differential sampling rates across the various subgroups, the response rate was 52.7%. Survey development, administration, datasets, and results are reported elsewhere.

14. SUBJECT TERMS			15. NUMBER OF PAGES
active-duty	survey methods	discrimination	236
survey	survey sampling		16. PRICE CODE
equal opprtunity (EO)	harassment		

17. SECURITY CLASSIFICATON OF REPORT	18. SECURITY CLASSIFICATION OF THE PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

SF298 (Rev 7/95)

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filing in each block of the form follow. It is important to ***stay within the lines*** to meet ***optical scaning requirements.***

Block 1. Agency Use Only*(Leave blank).*

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter includsive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C -	Contract	**PR** -	Project
G -	Grant	**TA** -	Task
PE -	Program Element	**WU**-	Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name.

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. *(If known)*

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability tothe public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distributio Statements on Technical Documents."
DOE - See authorities.
NASA - See Handbook NHB 2200.2.
NTIS - Leave blank.

Block 12b. Distribution Code

DOD - Leave blank
DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.
NASA - Leave blank.
NTIS - Leave blank.

Block 13. Abstract. Include a brief *(Maximum 200 words)* factual summary of the most significant information contained inthe report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code *(NTIS only)*.

Block 17. - 19. Security Classification. Self-explanatory. Enter U.S. Security Classification in acccordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract.This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.